FEBRUARY
1956

fueloil & oil heat

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Progressive
Dependable

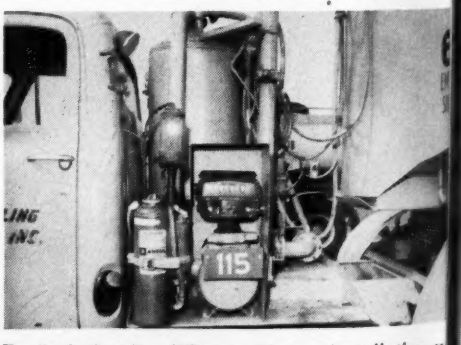
At NEW YORK INTERNATIONAL AIRPORT
Allied Fueling of New York, Inc.

METERS OVER 8 MILLION GALLONS MONTHLY

with the sustained accuracy of Brodie BiRotor Meters

Shown are some of Allied Fueling of New York, Inc. Brodie Meter equipped trucks in their fleet of over 60 refuelers. Brodie BiRotor Meters also are installed at the racks where these refuelers are loaded.

In one of the world's largest refueling operations, Allied Fueling of New York, Inc. employs Brodie BiRotor Meters on over 60 tank trucks in its fleet servicing all planes at busy New York International Airport for foreign and transcontinental flights. Many of these meters have measured well over five million gallons in less than two years, with no major maintenance. In this operation, where exact gallonage measurement and fast accurate service are essential to flight safety and close schedules, Brodie BiRotor Meters have proved themselves for high sustained accuracy and trouble-free performance. For the finest in meter performance at lowest maintenance cost, investigate Brodie BiRotor Meters. Write today for full information.



Typical Brodie BiRotor Meter installation on large trailer type refueler.

BRODIE BiRotor METERS

ALL-STEEL TRUE-ROTARY

RALPH N. BRODIE COMPANY • San Leandro, California, U.S.A.

MT. VERNON, N. Y.	DALLAS 2, TEXAS	CHICAGO OFFICE:	SEATTLE 9, WASH.	LOS ANGELES 22, CALIF.
550 So. Columbus Ave.	167 Parkhouse St.	1227 Circle Ave., Forest Park, Ill.	221 9th Ave. N.	5401 E. Sheila Street

REPRESENTATIVES WITH STOCKS AND SERVICE FACILITIES IN ALL PRINCIPAL CITIES

FEBRUARY fueloil & oilheat 1956

VOLUME 15 NUMBER 2

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YEARLY: $3.00

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SINGLE COPY: $1.00

AUDITED PAID CIRCULATION ABC

MEMBER OHI

MEMBER BPA

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Among other things . . .

The cover picture was taken in Portland, Ore., but it's not quite warm enough to make fueloil deliveries in that fashion—nor do they have such attractive helpers on the trucks, unfortunately. The young lady is a model, as might have been suspected, who pretties up home show exhibits. The fire department-fueloil truck concept originates from the fact that one hundred fueloil trucks are assigned in the area to the fire department for civilian defense activity. A worthy cause, and it makes an attractive cover.

You'll find considerably more about similar promotional efforts taking place and planned in the Pacific Northwest in the article, "Spending enough to win," page 49.

Then there follows an article of direct interest to fueloil dealers. It's the discussion by Economist McIntosh originally presented as "The Effect of Weather on the Consumption of petroleum Fuels." We call it, "Degree-Days don't always behave."

World's Largest Manufacturer
of the
Greatest Variety of Designs

Sparktrodes by DIELECTRIC

Pioneer with Standard Types

Sparktrodes by DIELECTRIC

Leading Supplier
to Oil Burner Manufacturers

Sparktrodes by DIELECTRIC

IMPORTANT
to Service Organizations

All Jobbers in Dielectric's nation-wide system of distribution carry carefully-selected, well-balanced inventories of Sparktrodes in steady demand — all the designs most likely to be called for in the areas they serve. In almost all cases, they can, therefore, fill your orders directly from stock. Backing this service are Dielectric's unmatched facilities for making SAME-DAY SHIPMENT to them on 175 special designs, as well as Five Standard Types pioneered by Dielectric, for application to 144 oil burner brands. When you order Sparktrodes from a Dielectric Jobber, you are assured of finest quality equipment and fastest service.

7-56-1

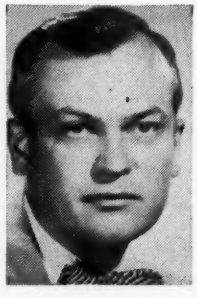
OHIO

DIELECTRIC
PRODUCTS COMPANY, INC.
Jersey City New Jersey

Names in the News

E. F. Groves, eastern representative for Automatic Burner Corp., died January 17. He was an oldtimer in the oilheating fraternity having been associated with Automatic Burner in the early days of the industry. He later was with Petroleum Heat & Power Co., Stamford, Conn., in various sales capacities and represented the company in Washington during World War II. Afterward he returned to Automatic Burner as a representative in the East. Funeral took place on January 19 at Riverside, Conn.

Maurice Eastin has been named manager of sales, Perfex Division, General Controls Co., Skokie, Ill. He had been sales manager of Perfex until General Controls acquired the controls division of Perfex Corp. to broaden its line of control equipment.



Kenneth B. Luskin has been appointed administrative assistant to H. F. Rothwell, vice-president, Delavan Manufacturing Co., West Des Moines, Ia. Luskin had been employed by Westinghouse. His appointment is a part of Delavan's program to enlarge the firm's engineering and research facilities.

Louis M. Campani has been appointed chief administrative engineer, The Liquidometer Corp., Long Island City, N. Y. Other promotions announced by the manufacturer of liquid level measuring devices include: *Julius V. DiFranco,* chief electrical engineer; *P. Richard Rosenberg,* chief mechanical engineer; *Edgar Astrove,* administrative assistant; and *Edward Chowske,* supervisor of the Industrial Engineering Group.

Michael J. Madden has been appointed sales engineer, OPW Corp., Cincinnati, O. Madden will work on sales research and support company jobbers and district representatives selling OPW valves, fittings, and assemblies.

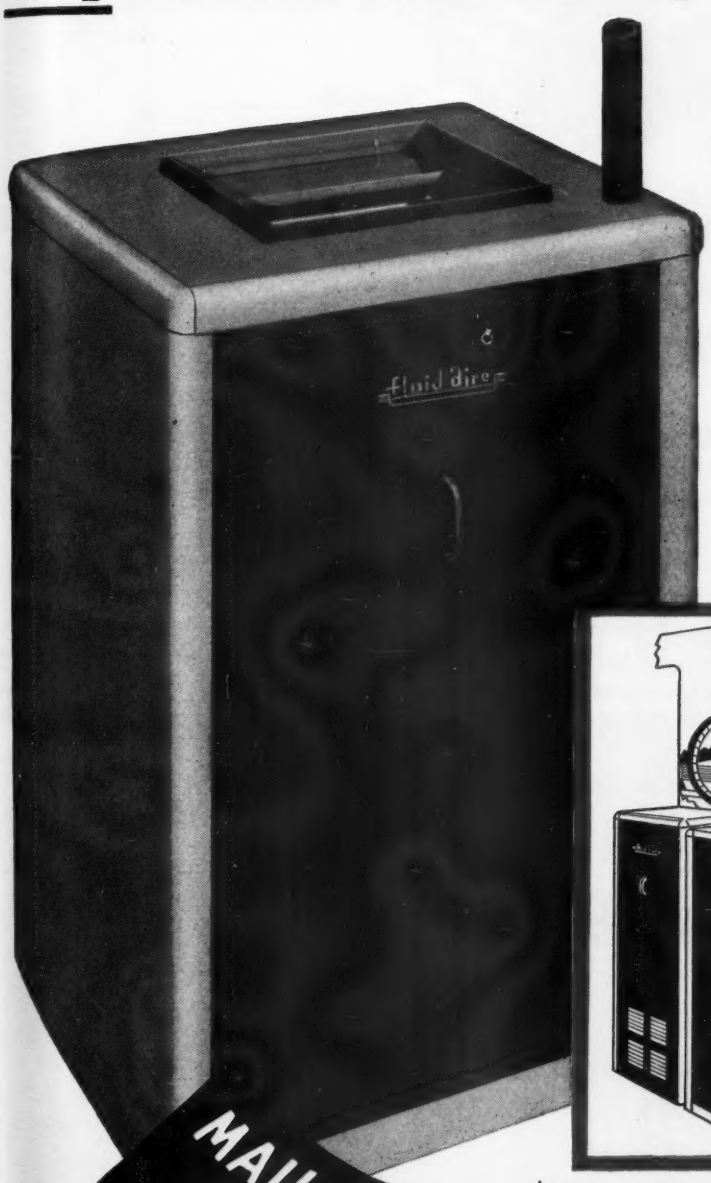
G. M. "Monnie" Mahnensmith has been named a district manager by Armstrong Furnace Co., Columbus, O. His territory will be Indiana, Kentucky and Illinois. *Ed Clifford,* who formerly had this territory, will now cover Michigan and part of Ohio.

Howard N. Eggleston has been named national construction manager, Carrier Corp., Syracuse, N. Y., to coordinate all field construction and shop fabricating operations. Previously he had been manager of construction for the Atlantic district office, where he has worked for most of the 10 years he has been with Carrier.

A. L. Hospers has been made southern regional sales manager, Heating and Cooling Division, Union Asbestos & Rubber Co., Chicago. He will supervise sales in 11 states including Alabama, Florida, Georgia, Louisiana, Mississippi, Tennessee, North Carolina, South Carolina, Arkansas, Oklahoma and Texas. His headquarters will be in Atlanta, Ga. Hospers was formerly with Servel, Inc., as airconditioning zone sales manager.

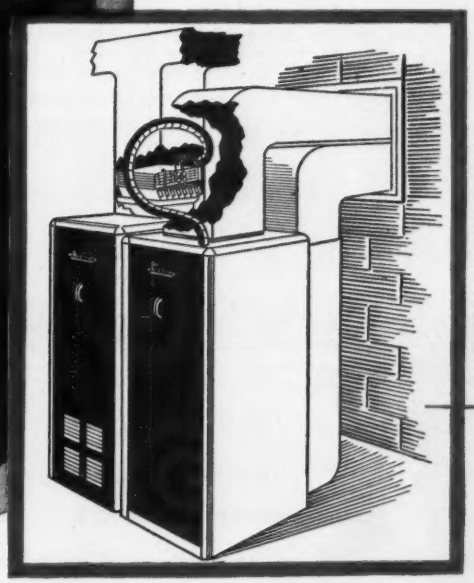
E. H. Bigden and *L. E. Laidlaw* have been named district sales managers, Pump Division, Geo. D. Roper Corp., Rockford, Ill. Bigden will manage the St. Louis territory, which includes Eastern Missouri and Southern Illinois. He has been with the Chicago district office since 1946. Laidlaw's territory will include Indiana and western Kentucky with headquarters in Indianapolis. Since 1948 he has

fluid heat gives you an Add-On Air Conditioning Unit for any home heated by forced warm air!



Check these features:

- Central, conversion type, 3 H. P. (34,000 BTU/Hr. A.S.R.E.)
- Hermetically-sealed at the factory
- Extremely compact: 26″ wide, 26½″ deep, 51″ high
- Operates in temperatures up to 125° F.
- Air-cooled—requires no water
- Drip collectors of non-corrosive metal.



Unit is dehydrated at factory and charged with the exact amount of refrigerant required. Evaporator coil can be placed in the supply plenum of any forced air furnace, thanks to flexible refrigerant line exclusive with Fluid Aire. Saves time and money on installation because present plenum and duct work can be used.

MAIL... FOR DETAILS

fluid aire®
COOLING SYSTEM

A product of the Fluid Heat Division, Anchor Post Products, Inc., manufacturers of a complete line of oil- and gas-fired heating equipment

fueloil & oilheat

Anchor Post Products, Inc., *Fluid Heat Div.*
6700 Eastern Ave., Baltimore 24, Md.

Gentlemen: Please send me complete details on your Air Conditioning Unit.

Firm Name_____

Address_____

City_____ Zone____ State____

My Name_____

Ever read a guarantee to beat this?

GORMAN-RUPP PUMP *Guarantee*

Our distributors are authorized to put a Gorman-Rupp Petroleum Products Pump on any petroleum installation, any time, anywhere alongside any other make of pump, same type and size.

If it isn't the best all-around pump our distributor will accept the return of the Gorman-Rupp Pump and pay any pump installation expense incurred, because:

The Gorman-Rupp Pump is guaranteed to be simpler in design; to prime quicker; to pump more petroleum product, more hours, more efficiently than any other pump.

THE GORMAN-RUPP COMPANY
Mansfield, Ohio

"O" series centrifugal pumps that PRIME!

- **Straight-in Suction**
- **Safer—No Check Valve**

Available in models and sizes for all petroleum-handling applications. Motor or engine driven. Flexible coupling or belt drive. Power take-off drive.

Write for Bulletin No. 4-PP-11

Gorman-Rupp PUMPS

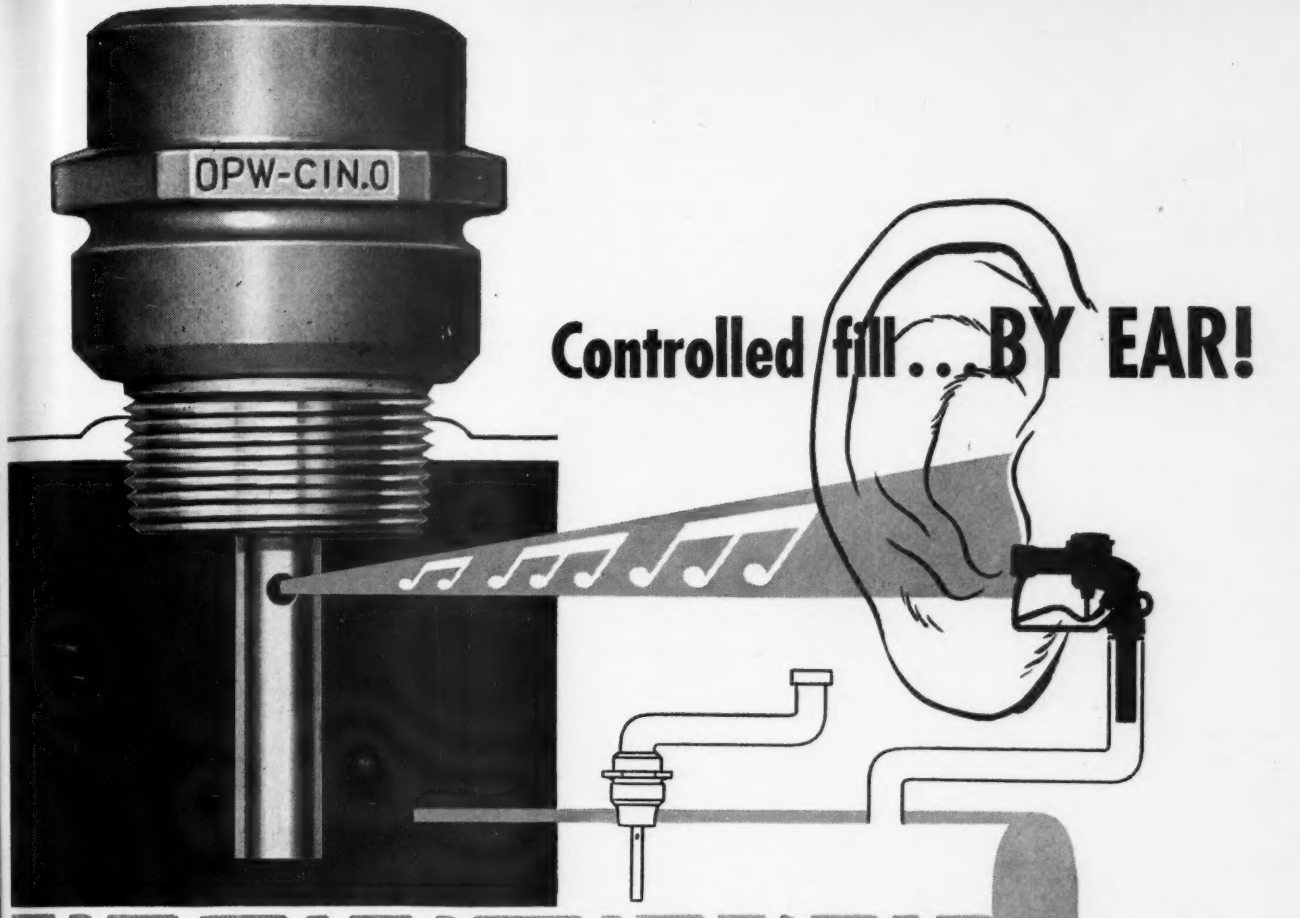
THE GORMAN-RUPP COMPANY
305 Bowman Street, Mansfield, Ohio

been associated with his own company which represents other pump manufacturers as well as the Roper rotary pump line.

John DeC. Blondel, president of John Blondel and Son, Montclair, N. J., has been elected a director of The Colonial Life Insurance Co. of America. Besides being a fueloil distributor and oilheating contractor Blondel is a director of the Montclair Trust Co. and a trustee and chairman of the executive committee, Fuel Oil Distributors Association of New Jersey. He also is a trustee of the New Jersey Coal Dealer's Association and a former trustee of the Fuel Merchants Association of New Jersey.

Joseph J. Sullivan has been named sales manager, room airconditioning, York Corp., York, Pa. This is a new position in the organization. Sullivan was formerly manager of sales management development, Sylvania Electric Products, Inc.

Two regional *sales managers named recently by Mueller Climatrol, Div. of Worthington Corp., Milwaukee, Wis., discuss their assignments with Don H. Davidson (right), Mueller's field sales manager. The regional managers are: M. H. "Tommy" Thomas of Columbus, Ohio, who will supervise five sales representatives from Indiana to the East Central States; Elmore Scheck of Milwaukee, whose region includes Wisconsin, northern Illinois and upper Michigan.*



Controlled fill...BY EAR!

OPW tank whistle

TANK FILL SAFETY SIGNAL

Foolproof!
Guaranteed Safe!
Underwriters Laboratory Listed!

Whistle sounds constantly while tank is being filled. Whistle stops immediately and automatically when liquid level in tank reaches bottom of tube.

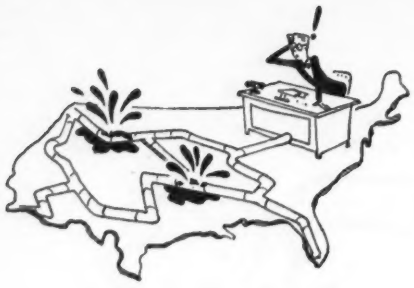
Tank always fills to proper level. Length of tube determines desired liquid level, and safety expansion zone. 9″ tube, standard length furnished can be easily cut to size required for a consistent fuel level in tank.

Fill-up time anytime, day or night from outside the building, whether customer is at home or away. No overflows, no seepage, no odors, no delivery disturbances, no irate customers. Controlled fill by ear.

High-grade gray iron casting, cadmium plated, clean, rust-proof, lifetime operation.

Write for complete descriptive Bulletin F-30.

OPW CORPORATION 2737 Colerain Ave., Cincinnati 25, Ohio



Editorial Leaks

ONE OF THE more interesting phases of the Midwest fueloil market in the past few weeks has been the tight supply of residual fuels, particularly around Chicago. To call it interesting is probably not using the right word, for that usually brings to mind something pleasant. What we really meant was "significant."

It's a crying shame that the oil industry will go on year after year selling stand-by residual oils to industries that have no thought of using them as long as they can get enough gas at cheap rates. You can't blame those consumers. They want to save money. The fault is entirely our own.

The trouble is in the interruptible contracts for gas . . . at "dump" rates. When the winter advances to where the gas is needed for house heating the industries are "interrupted," their gas fuel cut off and they go to oil.

This year the season was colder than expected so the gas for those industries was cut off early. They flocked to residual fueloil. The result was that some loyal year-round oil users had a hard time getting supplied.

This year the gas-using plants wanted too much cold-weather oil. In other years, if it's warm, they take very little . . . sometimes none.

There's no worse disturbing factor to the whole fueloil industry. It would be too visionary to think that the practice of selling stand-by fuels will ever be stopped. It would be sound economics, however, to charge such users a fairly stiff premium. More than that, they should be required to contract for specific amounts each year and then do their own "interrupting" of the gas supply at the most suitable time.

By and large, the gas industry couldn't take nearly so much home heating business at the expense of our distillates if it didn't have these summer industrial users at dump rates. We play into their hands at every turn.

Maybe it's a subject to be explored by the Fueloil Committee of API, and by the Commercial-Industrial Div. of the Oil-Heat Institute.

❖

IT WAS BACK in the boom years shortly after World War II that the editor coined and published the phrase, "Pipeline on Wheels." There had been an evening session in a New York hotel with Lon Casler, then a Chicago advertising executive. We were searching for a slant that would convey the thought that we had real flexibility in fuel supply while our competitor, the gas industry, was often hamstrung by a pipe of fixed diameter.

The three words have been widely adopted, mostly by over-the-road transporting companies, but also by the DuPont Co. in an industry motion picture.

This all came back to mind when a friend in Springfield, Mass., sent us a copy of the December 22 issue of the *Springfield Daily News*. A front page story told about 240 homes in the city being heatless for three days when gas failed them.

In one builder development the gas line "froze." Moisture in the gas had collected in low spots in the line. The published alibi of the gas utility was that these homes had no basements so the lines were not protected by depth.

To quote further the newspaper story, "Also affected by the gas failure are several hundred families in the Sixteen Acres section who have had only partial gas service for two days.

"Cause of the gas failure in this area was attributed by the company to an overloading of these lines and the inability of these lines to handle the tremendous demand which occurred when the cold wave hit."

We're still glad our pipeline is on wheels, and so, we believe, are our good customers.

❖

A CLEVER SHORT note in a Fort Lauderdale newspaper: "Britain's socialized electric utility industry has concluded that it no longer can depend upon Britain's socialized coal industry, and has contracted with Standard Oil Co. to supply fuel for eight new power stations."

❖

A CAMPAIGN FOR larger fueloil tanks for basement installation being conducted by Hollis Albert, president of the Oil Heat Assn. of Maryland, has a new twist. Hollis wants the fire insurance authorities to approve the use of a single 325 gallon tank or two of the conventional 275 gallon size. The two tank arrangement is acceptable in many markets today.

A single 325 gallon tank would cost very little more than a 275 and it could increase the average delivery by 25%. Assuming a 75 gallon reserve, the drop would be 250 gallons instead of the present average 200.

Moreover, Hollis points out that in some homes the installation of two tanks of 275 gallon size would take up basement space needed for something else. It's a good project and could help the industry considerably.

❖

WRITING IN THE "Coastal Oil Way," Kirk Shivell, New York fueloil promotional specialist, makes this pertinent point: ". . . there are many fuel-oil companies where customer turnover is excessive because proper methods are not used to make solidly loyal customers in the first place. For instance, it has become increasingly difficult for a fueloil dealer to feel that he has any real hold on his oil purchasers unless he provides burner service."

❖

WE'VE PROBABLY MENTIONED it before but it comes again to mind while writing this page. The Oil-Heat Institute of Long Island is well under way with its promotional campaign for oilheating. The program makes full use of a cartoon character named "Little Bill." The name was selected in a public contest; the winner was a lady. Where could you find a characterization so apt, another name so potentially effective for a midget who pops up here and there in the ads?

Bob Gray

Cost-Cutting Aids for Fuel Oil Dealers

VENTALARM

TRADE MARK REG. U. S. PAT. OFF.

the Original and Dependable

WHISTLING TANK FILL SIGNAL

- Saves up to 30% on delivery costs.
- Operates on the movement of air alone.
- Lasts the lifetime of the tank.
- Stem easily cut to provide any predetermined safety zone within the tank.
- A full variety of models and sizes for new or old tank installations — residential, commercial or industrial.

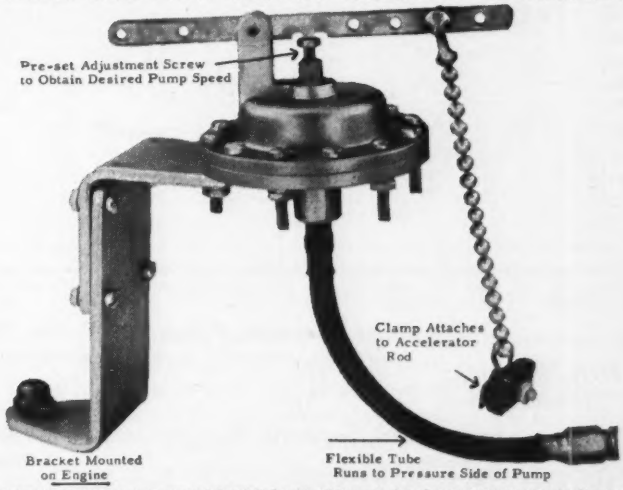
Over 4,000,000 VENTALARM Signals now installed.

Model LA for new tanks

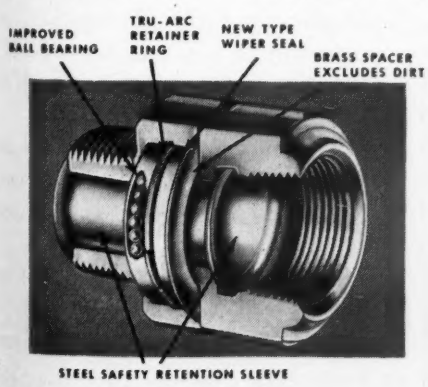
Model LC for old tanks

Scully THROTLATOR®

For automatic control of fuel oil pumping speed. Ends hand throttle adjustment and needless racing of truck motor and pump. Automatically adjusts engine speed to proper RPM for maximum pump efficiency when power take-off is engaged. Only 4" square, the Scully THROTLATOR is easily installed under engine hood near carburetor.


Pre-set Adjustment Screw to Obtain Desired Pump Speed
Clamp Attaches to Accelerator Rod
Bracket Mounted on Engine
Flexible Tube Runs to Pressure Side of Pump

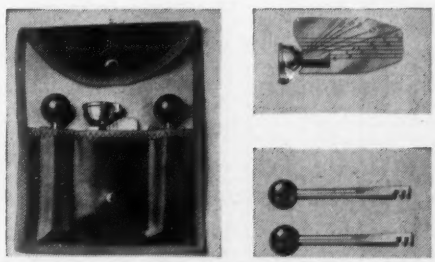
Scully SWIVEL CONNECTOR



For use between hose and nozzle to eliminate hose twist. Guarantees easy positioning of nozzle for delivery. Ball bearing action assures smooth turning even under full hose pressure. Exclusive safety retention sleeve holds swivel parts firmly in place.

©1959 SCULLY SIGNAL COMPANY

Scully 3-D ELECTRODE KIT



For fast, accurate 3-dimensional adjustment of burner electrodes. Gauge cup slips over burner nozzle. Gives you choice of setting by degree angles or by inch measurement method. Special electrode benders included. Complete Kit, as shown.

Scully Safety Vent Cap

Guarantees full venting. Special floating screen prevents insect clogging. Clutch-head screw locks cap on pipe, making it theft-proof. Size: 1¼". Handy-Pack of 6.

Scully Spout

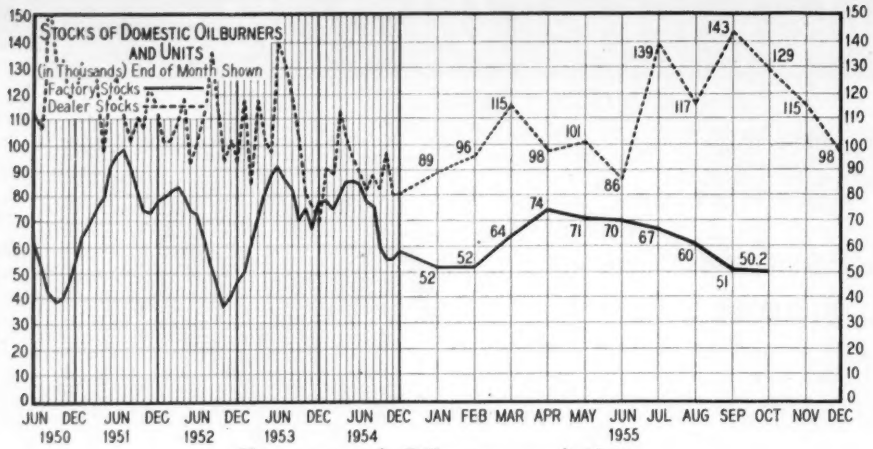
1-piece hardened alloy spout at low price. Features special design for velocity flow.

SCULLY SIGNAL COMPANY 174 Green St., Melrose 76, Mass.

Canadian Branch: Scully Signal Ltd., 286 King St., W., Toronto, Ontario

Scully Products are manufactured under U.S. and Foreign Patents and Patents Pending.

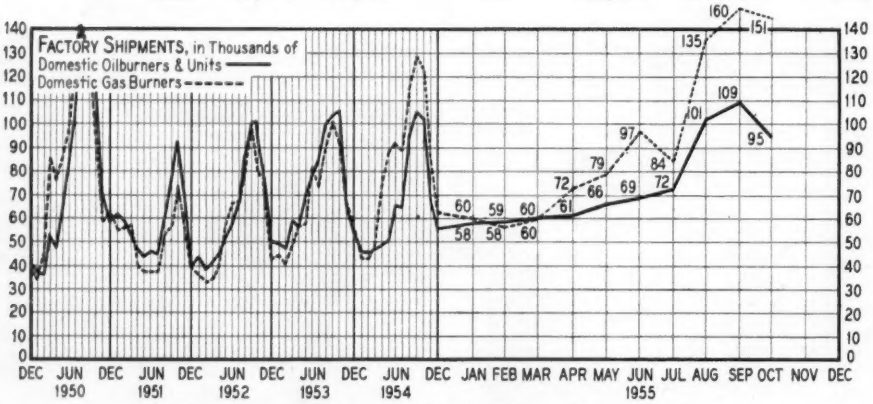
PURCHASE FROM YOUR FAVORITE SUPPLIER


STOCKS OF DOMESTIC OILBURNERS AND UNITS
(in Thousands) End of Month Shown
Factory Stocks
Dealer Stocks
JUN DEC JUN DEC JUN DEC JUN DEC JUN DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1950 1951 1952 1953 1954 1955

Shipments of Oilburners and Units
(Including Exports)

Adjusted to include manufacturers other than the 145 reporting to the Census Bureau, FUELOIL & OIL HEAT's estimates of shipments are:

	OCTOBER			TEN MONTHS		
	1955	*1954*	*Percent Change*	*1955*	*1954*	*Percent Change*
Separate Burners	65,613	72,322	— 9.3	495,180	446,208	+ 11.0
Boiler Units	8,309	8,546	— 2.8	72,340	57,388	+ 26.1
Furnace Units	21,088	22,420	— 5.9	180,946	164,122	+ 10.3
All Domestic	95,010	103,288	— 8.0	748,466	667,708	+ 12.1
Commercial	4,428	3,992	+ 10.9	33,615	32,030	+ 4.9
Total	99,671	107,280	— 7.1	782,081	699,738	+ 11.8


FACTORY SHIPMENTS, in Thousands of
Domestic Oilburners & Units
Domestic Gas Burners
DEC JUN DEC JUN DEC JUN DEC JUN DEC JUN DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1950 1951 1952 1953 1954 1955

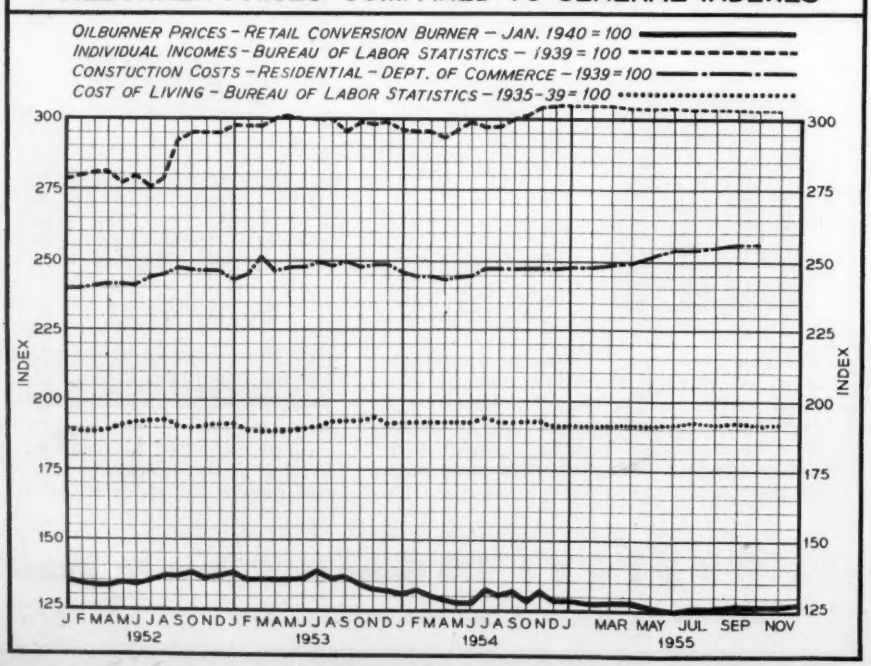
December Minimum Retail Prices: Key Dealers

	SEPARATE BURNERS	BOILER-BURNERS	FURNACE-BURNERS
December Aver.	$311	$721	$596
November Aver.	315	721	594

Price Index: Separate Burners: January 1940 is 100%

	WHOLESALE				RETAIL			
December	143.8	Six months ago	139.7	December	127.0	Six months ago	124.5
November	141.9	Year ago	135.0	November	126.9	Year ago	127.6

OILBURNER PRICES COMPARED TO GENERAL INDEXES


OILBURNER PRICES – RETAIL CONVERSION BURNER – JAN. 1940 = 100
INDIVIDUAL INCOMES – BUREAU OF LABOR STATISTICS – 1939 = 100
CONSTUCTION COSTS – RESIDENTIAL – DEPT. OF COMMERCE – 1939 = 100
COST OF LIVING – BUREAU OF LABOR STATISTICS – 1935-39 = 100
INDEX
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J MAR MAY JUL SEP NOV
1952 1953 1954 1955

Oilheating Trends

INSTALLATIONS of domestic oilburners and units in December are estimated at 55,481, which is down 6% from 59,312 installed in the same month of 1954. This brings the total for the year to 842,376, on the basis of the 12 individual monthly reports.

In our larger annual study published in the January issue we had estimated 834,345. The final figure of the year will be published in the April number after we get an opportunity to see the official data on factory shipments and exports for 1955.

The December installations were divided: New homes, 13,516; Replacements of old oilburners, 5,350; Conversions from other fuels 36,615. It looks like the business of replacing other fuels had more of a Christmas appeal than replacing old oilburners.

BURNER STOCKS: At the start of this new year dealers had on hand approximately 97,645 domestic oilburners and units. This compares with 115,388 the previous month and with 80,185 the previous year.

The January 1 stocks were divided: Separate burners, 51,885; Boiler-burner units, 19,360; Furnace burner units, 26,400.

Factory stocks at the end of October, the latest available data, were 50,226 which was the lowest point since December, 1952.

TANK STOCKS: At the first of the year oilheating dealers were holding approximately 43,014 customer oil tanks compared with 40,702 a month earlier and with 39,940 on the same date the previous year. The average price paid by dealers for a 275 gal. tank during December was $31 or the same as a month earlier.

Insist on the New *Classic* Thermostat...

Get Accurate Heating Control
Attractive, Modern Styling
Easy, Inexpensive Installation

Install DETROIT CONTROLS'

New *Classic* Thermostat

for Customer Satisfaction!

The Classic will add style and saleability to the heating systems you manufacture, sell or install.

Its smart, modern design will complement the decoration of any home, new or old. The single, large numbered dial is slanted for perfect vision—can be read at a glance! The temperature selector is directly under the indicator needle—eliminates fumbling with old-fashioned turning or twisting devices.

Installation is very simple. No precision levelling is necessary. The Classic requires only two wires—easily replaces any two or three wire thermostat of earlier design.

Close control of any type heating, within a *fraction of a degree,* is assured by Detroit Controls' Timed Cycling function.

National advertising in Better Homes & Gardens, Small Homes Guide, Home Modernizing and other magazines will bring broad consumer acceptance to the Thermostyled Classic.

DETROIT CONTROLS
CORPORATION

5900 TRUMBULL AVE. • DETROIT 8, MICHIGAN
Division of AMERICAN RADIATOR & STANDARD SANITARY Corporation

Representatives in Principal Cities—Canadian Representatives:
RAILWAY AND ENGINEERING SPECIALTIES, LTD.,
Montreal, Toronto, Winnipeg

Take Advantage of this opportunity...

SELL THE *Classic*

AUTOMATIC CONTROLS for DOMESTIC HEATING • AIR CONDITIONING • REFRIGERATION • AVIATION • TRANSPORTATION • HOME APPLIANCES • INDUSTRIAL USES

By principal sections of the country dealers paid for tanks of this size $28 in New England; $32 in Mid-Atlantic and South Atlantic areas; $28 in the Midwest and $41 in the Pacific Northwest.

By sizes the December tank stocks were divided: 200-275 gal., 38,270; sizes 550-675 gal., 2,534; sizes 1000 and larger, 1,760.

Special Study this Month

Credits and Collections: At the first of January, the reporting group had accounts receivable on its books representing 44 days prior billing. This, of course, was the weighted average figure, but there was a wide variation between individual companies. At the extreme ends of the scale we found one Indiana company whose receivables were equal to only 10 days prior billing; and one in Massachusetts where they represented 120 days.

The sectional averages were interesting, possibly because they reflect a basic business philosophy. The New England group as a whole had 54 days billing on its books at the end of the year. The average for the Mid-Atlantic, South-Atlantic combined groups was 47 days. For the Midwest it was 30 days, and for the Pacific Northwest 47 days.

In studies made in former years this figure has run between 39 days and 46 days billing indicating that there have been periods when the industry enjoyed better collections than the present study points up. However, some of the earlier studies were made at different months while this time the record was undoubtedly slanted by Christmas needs for cash.

The dealers were next asked about what percent of their receivables were as old as 60 days and the composite answer was 21%.

The next question brought a surprise. We had asked the companies if they offered any special discount for prompt payment, and find that 27% of them do this. The most common practice was to offer 2% on COD accounts, or 2% for payment within 10 days. We found 15% of the companies allowing a COD discount, and 19% allowing a 10 day discount. Quite a number of them offered both.

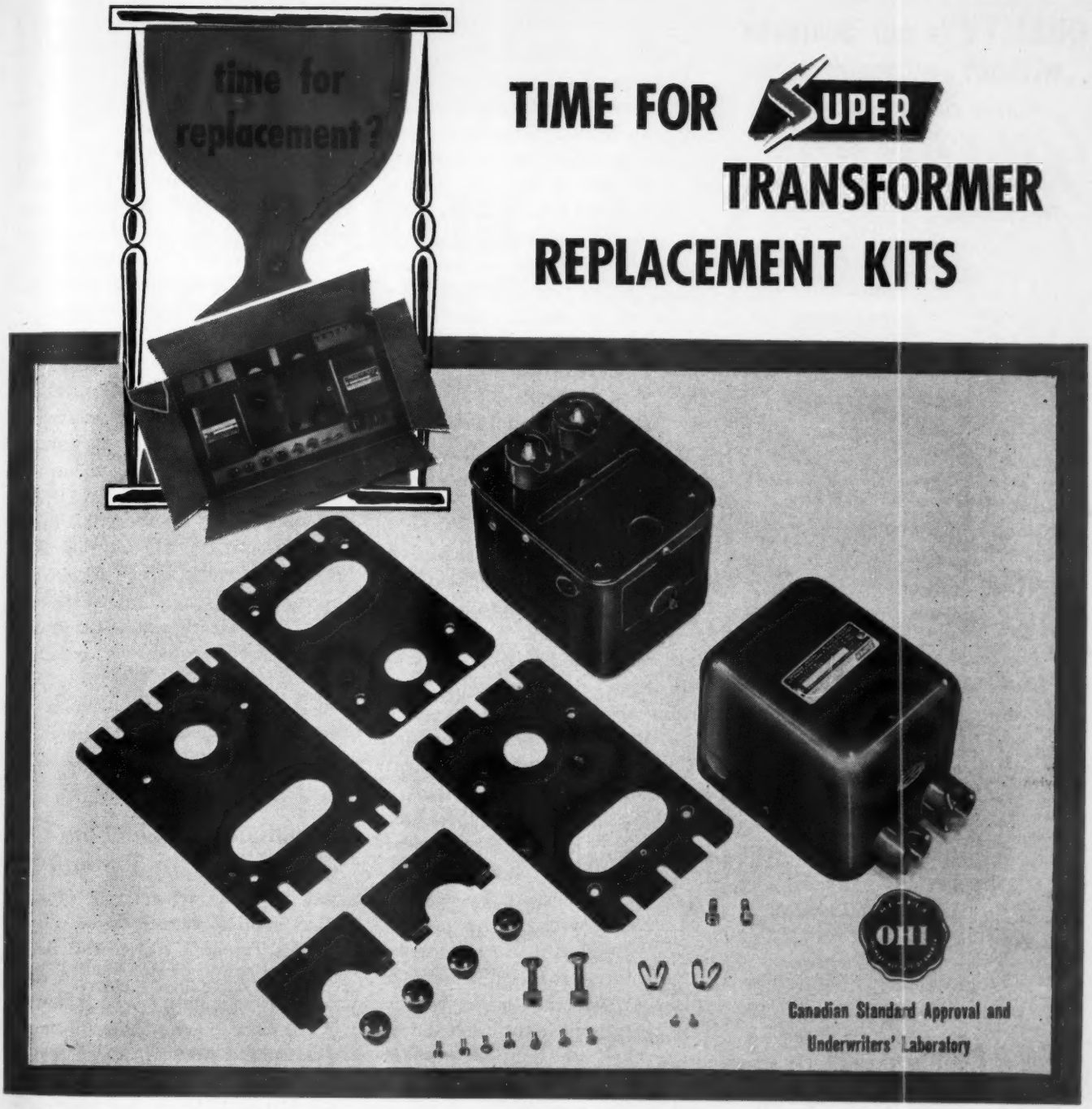
In nearly three-fourths of the markets represented by the reporting group there is a local credit bureau for fueloil accounts. The actual figure on this was 72% have a bureau and 28%, not. But when we asked if they make use of such a bureau 79% voted in the affirmative. The apparent confusion here has been caused by the difference between a credit bureau specifically for fueloil marketers and one for all types of retail business. By either interpretation it is clear that about three fourths of the fueloil men

Oilburner* and Building Permits

OILBURNERS					DWELLINGS			
December		12 MONTHS			December		12 MONTHS	
1955	1954	1955	1954		1955	1954	1955	1954
7	1	96	167	Albany, N. Y.	..	..	..	..
128	56	742	829	Baltimore, Md.	174	397	3195	2783
..	..	..	..	Binghamton, N. Y.	4	4	164	182
..	..	..	..	Bloomfield, N. J.	14	3	281	103
..	..	..	..	Boston, Mass.	29	29	732	618
80	114	1504	1266	Bridgeport, Conn.	..	..	..	..
..	..	..	..	Buffalo, N. Y.	15	18	504	511
75	4	429	232	Columbus, O.	..	..	..	..
..	..	..	..	Des Moines, Ia.	68	82	1909	4207
..	..	..	..	Detroit, Mich.	136	164	2929	3111
25	30	386	487	Elizabeth, N. J.	2	6	68	67
..	20	..	468	Freeport, N. Y.	..	..	..	..
..	..	..	..	Greenwich, Conn.	25	34	445	418
..	..	..	..	Hackensack, N. J.	5	5	62	86
89	171	653	1459	Hartford, Conn.	..	..	..	..
..	..	..	..	Hudson County, N. J.	..	..	..	..
3	10	309	341	Irvington, N. J.	4	1	48	22
..	..	..	..	Lynn, Mass.	25	12	218	198
46	37	505	747	Meriden, Conn.	..	..	..	..
195	459	4990	6674	Milwaukee, Wisc.	247	345	..	3966
21	20	228	210	Minneapolis, Minn.	28	49	791	1149
18	16	192	226	Montclair, N. J.	..	..	..	..
0	..	71	97	Morristown, N. J.	1	0	37	45
15	21	330	341	Mt. Vernon, N. Y.	..	..	..	..
53	61	1367	1474	Newark, N. J.	..	..	..	..
207	80	1287	547	New Bedford, Mass.	..	..	..	..
41	35	390	497	New Haven, Conn.	..	..	..	..
..	..	..	..	New Orleans, La.	..	..	..	..
18	55	370	350	New Rochelle, N. Y.	17	29	442	398
899	1099	9544	11090	Brooklyn-Queens	..	..	..	..
80	32	995	615	Norfolk, Va.	39	30	644	456
..	11	..	171	Omaha, Neb.	..	86	..	1364
7	9	141	173	Orange, N. J.	0	0	12	13
10	10	130	162	Passaic, N. J.	..	..	..	..
19	46	479	413	Paterson, N. J.	8	24	189	282
218	483	4154	4715	Philadelphia, Pa.**	..	..	..	..
..	..	..	..	Plainfield, N. J.	9	20	122	151
69	62	792	727	Portland, Me.	11	9	239	152
230	283	4025	4411	Portland, Ore.	32	97	1129	1647
4	11	191	222	Poughkeepsie, N. Y.	..	..	..	..
97	148	1054	..	Providence, R. I.	4	13	230	..
..	..	..	..	Reading, Pa.	0	3	43	49
52	33	524	381	Richmond, Va.	25	29	329	439
83	53	1223	..	Roanoke, Va.	..	..	..	..
72	71	1443	1951	Rochester, N. Y.	..	..	..	..
14	9	159	140	Rockville Center, N. Y.	1	7	62	78
54	36	518	471	Salem, Mass.	2	8	98	69
150	147	2245	2117	St. Louis, Mo.	18	27	384	528
10	11	128	104	St. Paul, Minn.	44	42	1028	1129
0	3	101	196	Schenectady, N. Y.	..	..	..	..
..	..	..	..	Seattle, Wash.	69	181	1863	2518
..	267	..	2292	Spokane, Wash.	..	..	..	..
125	101	1654	1606	Springfield, Mass.	40	118	1441	1279
40	28	326	310	Stamford, Conn.	..	..	..	..
..	..	..	..	Trenton, N. J.	..	4	..	114
..	..	..	..	Utica, N. Y.	..	22	..	194
57	38	624	684	Washington, D. C.	..	..	..	..
..	..	..	..	West Orange, N. J.	19	22	268	337
..	17	..	333	White Plains, N. Y.	..	3	..	169
44	20	526	529	Wilmington, Del.	3	0	83	49
150	128	1501	1512	Worcester, Mass.	..	..	..	..
47	96	610	767	Yonkers, N. Y.	..	..	..	..
2308	2422	27880	29359	*Totals*	871	1463	19759	23074
—4.7	..	—5.0	..	*Percent Change*	—40.5	..	—14.4	..

*Permits are not total sales in each market since none are reported from suburban areas, which normally account for 20% to 60% of total sales in each market; nor are they an accurate index where enforcement is lax. Rightly used, however, they are a useful working index.

**Courtesy of "Philadelphia Inquirer."


time for replacement?
TIME FOR SUPER TRANSFORMER REPLACEMENT KITS
OHI
Canadian Standard Approval and Underwriters' Laboratory

More and more servicemen are finding that Super's KA-2 Transformer Replacement Kit fills the bill when it's time for transformer replacement.

Everything needed has been included with this kit: 2 transformers; 3 interchangeable plates; 8 screws to fasten plates to transformers; 2 studs for stud mounted transformers; 2 Rajah adapters; 2 Spring Clip adapters. The interchangeable parts will fit most standard oil burners, permitting easy and speedy replacement without having to go further than your own car.

The Super KA-2 Kit will service approximately 500 different models. For complete list, send for Sheet KA-2.

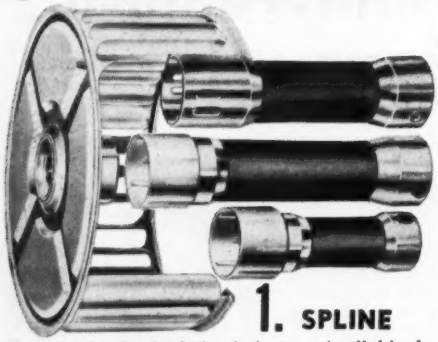
In addition to the KA-2 Kit, Super has in stock 7 other standard replacement transformers that will service approximately 800 different oil burners. Transformers to fit any make, model or year can be made up to your own particular specifications.

Write today for Super's new Transformer Replacement Catalog, No. TR-55 for complete specifications and data.

UNION ELECTRIC and MANUFACTURING CO.
1057 SUMMIT AVENUE, JERSEY CITY 7, N. J.

QUALITY is our business ..without *any* compromise

AND ONLY Guardian GIVES YOU ALL THREE —



1. SPLINE

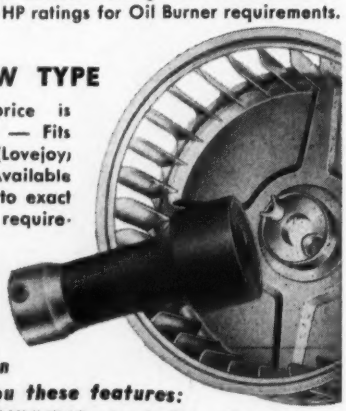
Quality standard of the industry—Available in Silent Tension Aluminum or DuPont Nylon.

2. REGULAR

Ultimate to correct misalignment—Furnished in 1/6 to ¾ HP ratings for Oil Burner requirements.

3. JAW TYPE

Where price is important — Fits all Jaw (Lovejoy) Hubs. Available in Nylon to exact length requirements.

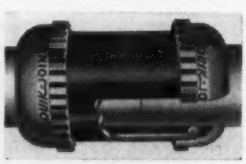


Only Guardian gives you these features:

1. ROLL SPINNING—for *built-in* alignment.
2. BRAIDED RUBBER—*ground* to absolute concentricity.
3. ONE-PIECE DESIGN — minimizes assembly costs.

NEW—Revolutionary "Quick Joint" Pipe Coupling

Just slip Quick Joint fittings over ends of pipe and tighten end nuts, THAT'S ALL. No threads to cut. Make a joint or disassemble for cleaning, inspection, etc., in *LESS THAN A MINUTE!* Repairs leaks. Just cut pipe at leak and put on a Quick Joint fitting. For working pressures up to 2000 P.S.I. Find out how Quick Joint can save you money — Write for FREE CATALOG.



Guardian PRODUCTS CORP. COUPLING DIVISION

Dept. F-26, 1231 E. Second Street
Michigan City, Indiana

check new customers against a central credit information service.

Actual bad debt losses of the reporting group in 1955 was only 0.42%. This figure needs to be qualified. A few companies reported losses to be charged off at the end of the year running as high as 4 and 5%. Obviously, these were not losses within a single year. They were either an accumulation through a long period, and just now charged off; or else they were delinquent accounts taken for tax credits but some of them would have to be put back on the books as collected. If we make some allowance for these large figures and they are left out of the calculation it indicates that true losses would run just about a half of one percent.

During the past few months there has been considerable agitation over the introduction of green trading stamps or other similar rewards. These are normally used to build gallonage rather than a collection device, but as a rule, they are identified with prompt payment of bills as well. In our study this month we find 4% of our reporting group using trading stamps or something similar. Among those using them just half say that they have materially speeded up collections and the other half do not believe that they have helped in this way.

We then asked the fueloil distributors in cases where they were not using stamps or similar incentives whether some competitior in their area did use them. Here we find 29% reporting that such incentives are actively used in their markets.

It is interesting to get an actual measure of the actual COD business done. This group reports that 9% of its customers pay cash on delivery. A few companies will not accept any COD business . . . specifically 6% of this group operates with that philosophy.

The number of accounts actually dropped during the year because of bad credit experience that could not be straightened out represents 2.1% of all customers of the reporting group. Another 1.1% of the oil customers of these companies are lost to competitors who offer green trading stamps or cash discounts that are not available with the original company. Thus we can say a total of 3.2% of customers are lost within a year for financial reasons . . . either cut off for bad credit or taken away through discounts.

The final question in the series asked the reporting companies to compare general credit conditions with the same time last year. The result was almost a standoff. With 25% saying they are better, 27% saying they are worse and 48% saying they see no change.

Dealer Comments: Typical of these in the month's report were . . . "By installing a good collection system this year we reduced receivables 30%." . . . "We are in an agricultural area where farm income is down so our collections are slow." . . . "People are complaining, of course, due to the cold season." . . . "We don't lose them on a cash discount, but on price reductions ranging from ½ to 2¢ a gallon." . . . "We violently oppose the pricing policy of the majors for recent increases in the Boston area." . . . "We do not keep delinquent accounts—as soon as a slow account is cleared up it is put on COD."

❖

Canadian OHA plans its largest Show in Toronto

THE FOURTH ANNUAL Oil Heating Association of Canada show will be held at Toronto's Automotive Building, March 19, 20 and 21. The committee arranging the National Heating & Air Conditioning Show anticipates that it will be the largest yet held.

Meeting at the same time will be the National Warm Air Heating & Air Conditioning Association of Canada to sponsor a three-day non-technical, education program. Although the Canadian exhibitors outnumber those from the United States there are more of the latter than ever before.

Attendance registration is limited to architects, building contractors, heating and airconditioning engineers, retailers and distributors, power engineers and fueloil dealers.

The OHA's annual meeting will be held on Tuseday, the 20th. At this time E. H. McKinney, president, will introduce the 1956 directors. Robert Gray, FUELOIL & OIL HEAT, will be the guest speaker.

Unexcelled for clean-burning, high temperature fires

THE ALL-NEW

U.S.-CARLIN "150 SERIES"

Designed exclusively for flange mounting on any furnace, boiler or water heater with minimum tube opening of 4¼" diameter.

MOTOR—⅛ H.P. long-hour duty with safety overload control. Complies with NEMA mounting specifications.

TRANSFORMER—10,000 volt. Shielded to eliminate radio and TV interference.

AIR TUBE—Steel. 4⅛" O.D.

AIR DEFLECTOR BAFFLE—Adjustable: For positioning of fire. (Model 150F only)

FAN—Precision balanced. Mounted directly on motor shaft.

NOZZLE—Stainless steel alloy. Hollow cone spray to conform to burner air pattern.

FUEL UNIT—Single-stage with built-in strainers and pressure regulating valve. Two-stage fuel unit available on special order.

ELECTRODE ASSEMBLY—Lifetime phosphor bronze bus bars. Nichrome steel electrodes with full-glazed porcelain insulators. (Model 150SF-2 has counterbored insulators.)

HOUSING—One-piece cast iron. Designed for efficient air delivery and smooth, quiet operation. Machined to rigid standards.

AIR SHUTTER—Assures uniform 4-way air intake.

COUPLING—Universal type with rubber center piece.

GRADE OF OIL—No. 2 U. S. Government Commercial Standard CS12-48.

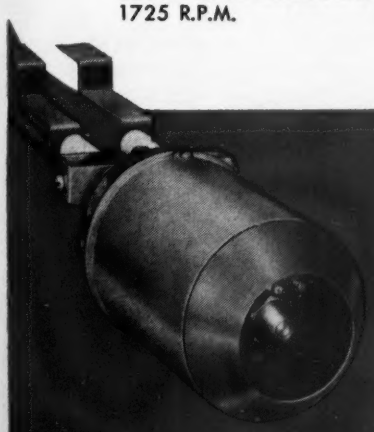
CONTROLS—Thermostat, Limit Control and Stack Relay.

ELECTRICAL CHARACTERISTICS—115V, 60 cycle, 1725 R.P.M.

Model 150F with Carlin Head
Capacity: 0.65 to 1.50 G.P.H.

They Outsell Because They Excel

Model 150SF-2 with High Temperature Combustion Head (Shell Head)
Capacity: 0.65 to 1.35 G.P.H.



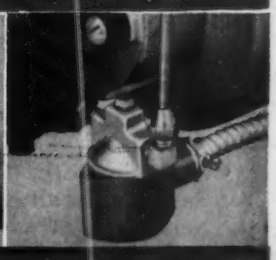
Plus these important features offered in Model 150SF-2

HIGH TEMPERATURE COMBUSTION HEAD (SHELL HEAD)

For cleaner, more efficient firing ... and proven fuel savings up to 5%

VERNI-FLAME CONTROL

The cone flame is quickly, easily obtained by turning an adjustment nut.



SLAVE-OPERATING OIL VALVE

Assures proper fuel-air ratio ... clean combustion without a hold-opening lever.

For complete details of U.S.-Carlin's flange mounted "150" series, contact your wholesaler or write . . .

THE CARLIN COMPANY - WETHERSFIELD, CONNECTICUT

HOLD EVERYTHING—

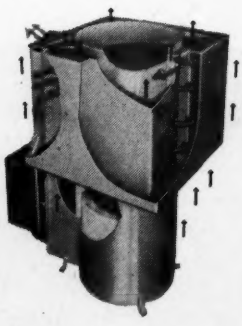
1956 EUREKA WILLIAMS

*You'll see how exclusive Williams features mean **MORE** full profits for you!*

- **Advanced New Styling**
- **More Models To Choose From**
- **New Lower Unit Costs**
- **Cost-Cutting, Labor-Saving Installations—Sealed in Steel units need no grout work or expensive sealing-in**
- **Models To Fit Every Need...Hi-Boy, Lo-Boy, Counterflow, Suspended, Boiler Burner and companion Air Conditioning Units for oil and all types of gas**

Sealed in Steel FROM TOP TO BOTTOM!

"Sealed in Steel" means the cleanest heat ever! Because the new Eureka Williams warm air units are completely sealed in steel—only filtered air can pass through the heat exchanger into the home. Quick, easy, sure adjustments with new Williams Levelizers.



NEW HEAT EXCHANGER CUTS FUEL BILLS!

Exclusive new design assures long-life, highest efficiency. Extra-heavy steel (14 ga.). Electric-welded to stay gas tight. Square wrap-around type radiator gives balanced air flow for maximum heat transfer. Scientific-design baffles assure uniform heat distribution.

You'll see how Williams National and Local Advertising Program Helps You Sell...

AND LOTS MORE!

Until you see the big special DEALERAMA SHOW

Check these dates for arrival and place of special private presentation of Williams 1956 Dealerama Show in your area. The big show starts promptly at 12 Noon.

EAST

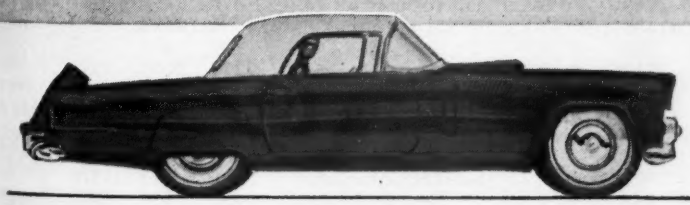
DATE	CITY & STATE	HOTEL
Monday, Jan. 30	Altoona, Pa.	Penn Alto
Wednesday, Feb. 1	Pittsburgh, Pa.	Roosevelt
Friday, Feb 3	Erie, Pa.	Lawrence
Monday, Feb. 6	Buffalo, N. Y.	Hotel Buffalo
Wednesday, Feb. 8	Rochester, N. Y.	Manger Rochester
Friday, Feb. 10	Syracuse, N. Y.	Hotel Onondaga
Monday, Feb. 13	Albany, N. Y.	Sheraton-Ten Eyck
Wednesday, Feb. 15	Manchester, N. H.	Carpenter
Friday, Feb. 17	Portland, Maine	Lafayette
Monday, Feb. 20	Boston, Mass.	Somerset
Wednesday, Feb. 22	Hartford, Conn.	Statler
Friday, Feb. 24	Newark, N. J.	Essex House
Monday, Feb. 27	New York, N. Y.	Sheraton-Astor
Wednesday, Feb. 29	Philadelphia, Pa.	Benjamin Franklin
Friday, Mar. 2	Harrisburg, Pa.	Penn Harris
Monday, Mar. 5	Baltimore, Md.	Emerson
Wednesday, Mar. 7	Richmond, Va.	Jefferson
Friday, Mar. 9	Norfolk, Va.	Monticello
Monday, Mar. 12	Charlotte, N. C.	Selwyn
Wednesday, Mar. 14	Knoxville, Tenn.	Farragut
Friday, Mar. 16	Nashville, Tenn.	Maxwell House

MIDWEST

DATE	CITY & STATE	HOTEL
Monday, Jan. 30	Bloomington, Ill.	Factory
Wednesday, Feb. 1	Indianapolis, Ind.	Claypool
Friday, Feb. 3	Evansville, Ind.	McCurdy
Monday, Feb. 6	Louisville, Ky.	Seelbach
Wednesday, Feb. 8	Lexington, Ky.	Phoenix
Friday, Feb. 10	Charleston, W. Va.	Daniel Boone
Monday, Feb. 13	Cincinnati, Ohio	Netherland Plaza
Wednesday, Feb. 15	Dayton, Ohio	Miami
Friday, Feb. 17	Columbus, Ohio	Deshler Hilton
Monday, Feb. 20	Canton, Ohio	Belden
Wednesday, Feb. 22	Cleveland, Ohio	Hollenden
Friday, Feb. 24	Toledo, Ohio	Commodore Perry
Monday, Feb. 27	Detroit, Mich.	Detroit Leland
Wednesday, Feb. 29	Saginaw, Mich.	Bancroft
Friday, Mar. 2	Petoskey, Mich.	Perry
Monday, Mar. 5	Grand Rapids, Mich.	Pantlind
Wednesday, Mar. 7	Ft. Wayne, Ind.	Van Orman
Friday, Mar. 9	Chicago, Ill.	Edgewater Beach
Monday, Mar. 12	Milwaukee, Wis.	Pfister
Wednesday, Mar. 14	Green Bay, Wis.	Beaumont
Friday, Mar. 16	Rockford, Ill.	Faust

WEST

DATE	CITY & STATE	HOTEL
Monday, Jan. 30	Davenport, Iowa	Blackhawk
Wednesday, Feb. 1	Des Moines, Iowa	Savery
Friday, Feb. 3	Waterloo, Iowa	Russel Lamson
Monday, Feb. 6	Mason City, Iowa	Hanford
Wednesday, Feb. 8	Rochester, Minn.	Kahler
Friday, Feb. 10	Eau Claire, Wis.	Eau Claire
Monday, Feb. 13	Minneapolis, Minn.	Nicollet
Wednesday, Feb. 15	Duluth, Minn.	Duluth
Friday, Feb. 17	Fargo, N. Dak.	Gardner
Monday, Feb. 20	Bismarck, N. Dak.	Patterson
Wednesday, Feb. 22	Watertown, S. Dak.	Lincoln
Friday, Feb. 24	Sioux Falls, S. D.	Hotel Cataract
Monday, Feb. 27	Sioux City, Iowa	Hotel Martin
Wednesday, Feb. 29	Omaha, Nebr.	Fontenelli
Friday, Mar. 2	Kearney, Nebr.	Fort Kearney
Monday, Mar. 5	Denver, Colo.	Brown Palace
Wednesday, Mar. 7	Dodge City, Kan.	Lora-Locke
Friday, Mar. 9	Wichita, Kan.	Allis
Monday, Mar. 12	Kansas City, Mo.	Muehlebach
Wednesday, Mar. 14	Jefferson City, Mo.	Governor
Friday, Mar. 16	St. Louis, Mo.	Chase Park Plaza



You may Win a New FORD THUNDERBIRD
...just for coming!

From the oldest name in automatic heating

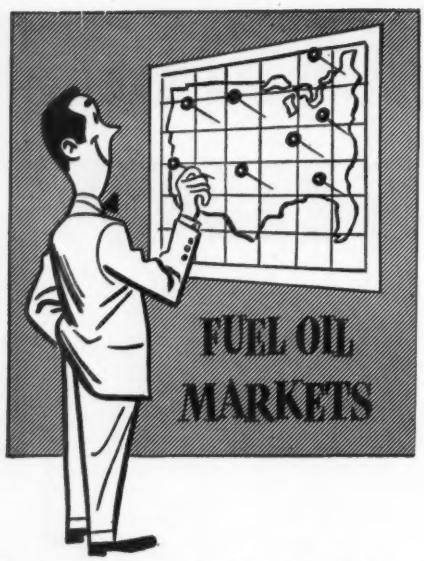
EUREKA Williams OIL-O-MATIC GAS-O-MATIC AIR-O-MATIC

EUREKA WILLIAMS CORPORATION • BLOOMINGTON, ILLINOIS

We cordially invite all Heating and Air Conditioning Dealers. See the big Williams DEALERAMA SHOW and put your name in the hat for a brand new Ford Thunderbird...and for valuable Eureka Vacuum cleaner door prizes.

Williams is on the move! *Get all the facts on how you can GO and GROW with WILLIAMS for '56!*

Fueloil & oilheat



DURING THE MONTH from December 15 to January 15 the prices of distillate heating oils advanced in all cities used in our table, except those on the Pacific Coast. The upswing ranged from .3¢ to .5¢ with most of the higher advances occurring in the Middle West.

Several reasons were advanced by the supplying companies for the price raises. On the Eastern Seaboard it was because tanker rates have advanced very sharply since the fall, and above last winter. In the Midwest there was some tightness in supply and the market was literally "bid up."

There was no basic necessity for the supply position being tight, since production and refining capacities are more than adequate for all needs. Rather, it was a situation where the colder-than-normal winter caught the suppliers short.

Refiners try to hold supply and demand within the range of about a two per cent variance, since a stronger surplus can spoil a good market. An abnormal cold period thus may find supply short.

Degree-days, as the table shows, were getting stronger by the month. November and December were the coldest since 1917 in the East.

And the nice thing about it was that there was very little snow in the period and stronger than normal winds, so consumption of all fuels was high. This serves to add emphasis to the cost of gas heating in spots where their rates are higher than oil.

That would be true of practically all markets east of the Alleghenies.

No. 2 Heating Oil (Including No. 3 & PS200)

Price per gallon as of January 15, 1956

	Tank Car	Tank Wagon		Tank Car	Tank Wagon
Portland, Me.	10.8	14.5	Richmond	11.0	14.2
Boston	10.7	14.5	Charleston, S. C.	10.7	13.9
Providence	10.7	14.2	Chicago	11.2*	14.6
Springfield, Mass.	10.95	14.5	Detroit	11.95*	15.2
Hartford	10.95	14.5	Cleveland	11.6*	14.6
New Haven	10.6	14.2	Minneapolis	11.0	14.3
Syracuse	11.6	14.8	St. Louis	11.0*	14.4
Albany	10.8	14.2	Indianapolis	11.5*	15.1
New York	10.6	13.8	Milwaukee	12.0*	15.5
Newark	10.6	13.8	Des Moines	..	14.3
Philadelphia	10.6	13.5	San Francisco	10.45	13.0
Harrisburg	..	14.6	Portland, Ore.	11.05	13.6
Baltimore	10.6	14.15	Seattle	11.05	13.7
Wilmington, N. C.	10.7	14.0	Spokane	13.45	16.1
Washington	..	14.65	Los Angeles	9.95	12.5

*Delivered.
Tank wagon prices shown are for maximum one-time delivery discounts.

DEGREE DAY TABLES

——ONE MONTH ONLY——					——SEASON TO DATE——			
	December		Percent		Sept. through Dec.			Percent
Normal	1954	1955	Change*		Normal	1954	1955	Change*
1197	1142	1377	+15.0	Albany AP	2559	2406	2759	+ 7.8
614	652†	664	+ 8.1	Atlanta AP	1125	1257†	1235	+ 9.8
908	924†	1037	+14.2	Baltimore AP	1818	1849†	1943	+ 6.9
998	941	1181	+18.3	Boston AP	2008	1908	2258	+12.5
1116	1117	1229	+10.1	Buffalo AP	2424	2299	2491	+ 2.8
1147	1020	1205	+ 5.1	Chicago AP	2352	2046	2414	+ 2.6
880	923	993	+12.8	Cincinnati CO	1711	1857	1969	+15.1
1057	1014	1127	+ 6.6	Cleveland AP	2171	2050	2284	+ 5.2
518	461	550	+ 6.2	Dallas AP	870	802	951	+ 9.3
1032	934	911	—11.7	Denver AP	2348	2016	2230	— 5.0
1203	1094	1343	+11.6	Des Moines AP	2455	2212	2768	+12.7
1101	1088	1165	+ 5.8	Detroit AP	2325	2214	2360	+ 1.5
1107	1077	1180	+ 6.6	Grand Rapids CO	2362	2217	2427	+ 2.8
1082	1014	1256	+16.1	Hartford AP	2266	2150	2493	+10.0
1311	1295	1427	+ 8.8	Helena AP	3247	3039	3644	+12.2
321	260	290	— 9.7	Houston AP	509	447	507	— 0.4
1051	1010†	1119	+ 6.5	Indianapolis AP	2141	2065†	2290	+ 7.0
970	864	1020	+ 5.2	Kansas City AP	1875	1596	1960	+ 4.5
253	213	279	+10.3	Los Angeles CO	451	324	487	+ 8.0
571	862	919	+ 5.5	Louisville AP	1733	1714	1806	+ 4.2
1218	1137†	1308	+ 7.4	Milwaukee AP	2611	2360†	2724	+ 4.3
1414	1281	1631	+15.3	Minneapolis AP	2990	2764	3363	+12.5
283	270	301	+ 6.4	New Orleans CO	429	483	507	+18.2
908	898	1069	+17.7	New York CO	1771	1724	1908	+ 7.7
1166	1025	1284	+10.1	Omaha AP	2368	1995	2683	+13.3
856	857	1010	+18.0	Philadelphia CO	1624	1627	1733	+ 6.7
924	952	1013	+ 9.8	Pittsburgh CO	1890	1890	2011	+ 6.4
1237	1160	1448	+17.1	Portland, Me. AP	2776	2624	3056	+10.1
701	692	729	+ 4.0	Portland, Ore. CO	1600	1471	1773	+10.8
1035	976	1219	+17.8	Providence AP	2195	2036	2372	+ 8.1
806	865	945	+17.2	Roanoke, Va. AP	1632	1798	1816	+11.3
893	850	945	+ 5.8	St. Louis CO	1703	1640	1813	+ 6.5
1039	1070†	858	—17.4	Salt Lake City AP	2279	2183†	2227	— 2.3
406	462	362	—10.8	San Francisco CO	881	939	992	+12.6
1398	1351	1478	+ 5.7	Sault Ste. Marie AP	3340	3153	3378	+ 1.1
679	645	730	+ 7.5	Seattle CO	1682	1527	1975	+17.4
1398	1351	1478	+ 5.7	Toledo AP	2364	2221	2471	+ 4.5
837	857	968	+15.7	Washington AP	1630	1661	1743	+ 6.9

*Compared with normal. †City Office.

Distillate Fueloils

PRIMARY STOCKS* (Thousands of Barrels) East of Rockies	Jan. 6 1956	Jan. 7 1955
East Coast	41,404	40,087
Midwest	29,507	30,414
Gulf Coast	22,197	20,676
Total	93,108	91,177

SECONDARY STOCKS** (Thousands of Barrels)	Oct. 31 1955	Oct. 31 1954
East Coast	13,939	12,604
Midwest	6,678	6,184
Gulf Coast	861	698
Mountain	519	496
Pacific	1,247	1,214
Total	23,244	21,196

*American Petroleum Institute. **Bureau of the Census.

From this modern office in Watertown, Massachusetts, Buckley and Scott control their own hard-working fleet of trucks, as well as those of associated companies.

Fast, Quiet Fuel Oil Deliveries Stressed

DEPENDABLE TRUCK PUMPS VITAL . . .

BUCKLEY AND SCOTT SWITCH TO MARLOWS

The Buckley and Scott Company operates a large fleet of trucks to serve many thousands of well satisfied customers in the Boston Metropolitan area. Pumps are of great importance to their business and after seeing a demonstration by the Hall Equipment Company, also of Boston, they obtained a Marlow centrifugal on their next tank truck.

Buckley and Scott are impressed with the quiet efficiency of this Marlow equipped tank truck.

Thomas J. Scott, Vice President and General Manager, likes the quiet and vibrationless operation of the pump. He says, "This is vital to the life of the equipment and has a byproduct of good will to customers." He also thinks the pump will be more economical in the long run since it has a high capacity to begin with and will maintain this high capacity throughout an indefinite period. The pumps he has been using have to be replaced every one or two years to maintain capacity.

Bob McClellan, the Dispatcher, likes the quiet operation of the pump and also its cleanliness with no leaks through the mechanical shaft seal. The high capacity also appeals to Bob. He said that their drivers don't like to stand still in freezing cold weather holding the hose nozzle waiting for the tank to fill. Their drivers deliver 6,000 to 8,000 gallons per day. This is hard work and any simplification is desirable.

Another important consideration with Buckley and Scott is maintenance. Last year they had a thousand dollar repair bill in one week when small amounts of water froze in five rotary type pumps. This resulted in stripped transmission gears and broken power take-offs. Marlow pumps pass small sized solids without damage.

If you are interested in fast,quiet fuel oil deliveries, you will be interested in Marlows. Write and ask for Bulletin PM-06 and the name of your nearest Marlow dealer.

Marlow PUMPS
5-268

MARLOW PUMPS
Division of Bell & Gossett Company
MIDLAND PARK, NEW JERSEY
Morton Grove, Illinois Longview, Texas
In Canada: PUMPS & SOFTENERS LTD., LONDON, ONTARIO

Government Influences on Fuels

by
Milburn Petty

WASHINGTON — It may be a long time before the gas distributing companies live down the effects of their all-out attacks on the Harris-Fulbright Gas Bill.

Congressional debate on this bill—to exempt independent producers from direct control by the Federal Power Commission—indicated extent of the rift between distributors and producers.

Many producers felt they had a right to expect—after passage of the Hinshaw Bill exempting local distribution from FPC control—that distributors would support legislation to exempt production from federal control.

Instead, gas distributors—more than 60 of them—launched a campaign against the Harris Bill, even though producers had yielded on point after point to appease objections so that it became more of a regulatory measure than an exemption.

Producers Hit Gas Distributors

Striking back at assertions by local gas companies that this legislation would open the door to unrestricted increases in field prices of gas, the producers ran newspaper advertisements to show how little the producer got for gas in comparison with the mark-up before it reached the consumer.

Long after the battlesmoke has cleared from the gas bill fight, consumers—and local politicians—may be remembering those figures. And they may haunt gas utilities at rate hearings for years to come.

The picture, as producers see it, is that many gas utilities signed up for natural gas when prices were depressed. Then, ignoring the contract mechanisms that would eventually raise prices for gas nearer its intrinsic worth, they went out "to corner the market for automatic heating" at too-low rates.

Now, many of these distributors are looking to the FPC to bail them out, under the Supreme Court's decision in the Phillips Case, by holding contract prices down—if not actually rolling them back, according to the producers.

The head of one eastern gas distributing company, attacking the Harris Bill, said they had reduced their heating rates to draw even with fueloil competition—"and we had hoped to get below oil prices."

He said that his company and others, in accepting supply contracts containing price escalation clauses, had signed "black checks." (Others have said, "we didn't read the fine print.")

Distributors Get Price Blame

Senator Monroney (D., Oklahoma), floor manager for the gas bill, denied charges that this legislation would increase consumer gas prices by $800 million a year.

Some distributors, he said, charge $1.50 to $2.07 (New York's rate) to distribute gas from the city gate to the burner tip.

He blamed "sleepy and lazy" state regulatory commissions for allowing distribution costs to stay high despite savings which he said the companies had effected by switching from manufactured to natural gas.

The gas companies were accused of attempting to shift the blame for high prices to the producers.

He expressed the hope that spotlighting the high cost of gas distribution would stir up the newspapers to investigate the gas utilities in their areas.

Monroney denied producer prices would be uncontrolled. All "favored nation" escalation clauses (which have been the principal cause of complaint by distributors) will be controlled in existing as well as new contracts—and producers are prevented from exercising "escape clauses."

Future Supply May Be Affected

Another aftermath of the intemperate attacks on producers by the gas utilities and their "strange bed-fellow" allies—including the CIO, left-wing newspapers and radio commentators, and others—may be a reluctance by many producers to sell their gas reserves on long-term contracts.

They may be fearful that the Supreme Court might strike down these contracts—as it did in the Phillips Case—or some future administration, like the "New Deal," would change the law.

So, there may be an inclination among producers to "play it safe" and sell more of their gas, locally, for industrial use and stay out of reach of federal control.

Increased use of natural gas as a raw material for chemicals, plastics and other products will increase its intrinsic worth.

If experience demonstrates that FPC is unwilling—or unable—to allow gas rates that are competitive with prices for local industrial use, it seems likely that future supplies for interstate movement will be affected.

FPC Orders Gas Price Rollback

FPC has denied a rehearing to Signal Oil and Gas Co. in the case where a certificate was granted to this producing company—but only on condition that the initial contract price be rolled back from 12¢ to 10¢ which, the FPC said, was the present field price. Effect will be to "freeze" the field price at 10¢, it was pointed out.

Another straw in the wind was the appellate court's ruling that pipelines were not entitled to the "fair market price" for their own production—but only a rate based upon investment.

Oil Import Cut Seen Unlikely

ODM Director Flemming likely will keep the oil import issue in the "deep freeze" at least until spring.

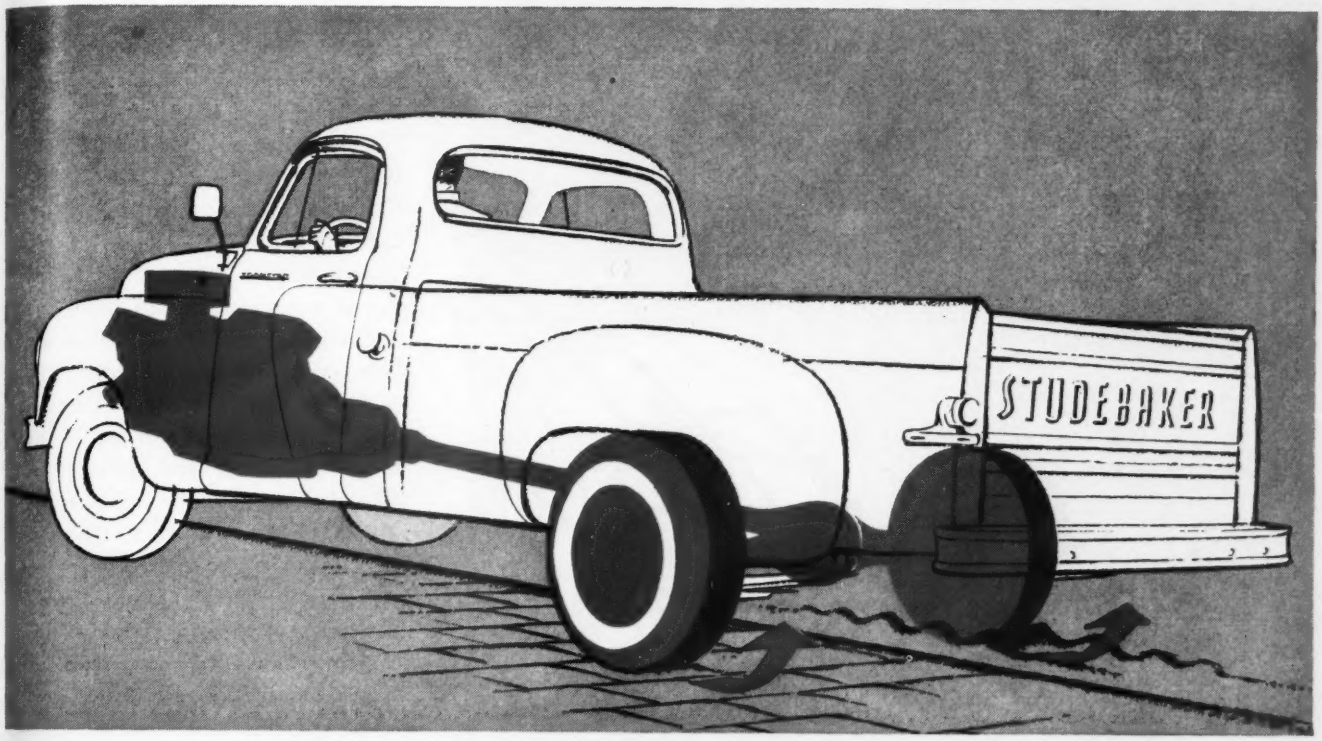
With domestic crude oil production topping 7,000,000 B/D recently, and coal having its "second best" year with production in 1955 up about 20%, the pressure on Flemming for action to limit imports has lessened.

Flemming, last October, announced that he would not act to restrict imports of residual fueloil, perhaps reflecting protests from New England and elsewhere that his earlier "hold-the-line" request had tightened supplies to the danger point.

Residual stocks started the year 28% below the year-ago levels, with demand up and the coldest months ahead.

NEW STUDEBAKER TRANSTARS

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★



First with Twin-Traction Differential!

New truck advancement
delivers power to both rear wheels—
even on ice, in snow, sand or mud!

You get new tractive efficiency with Studebaker's pioneering Twin-Traction differential. In mud, snow, sand, or on ice, it delivers "go" power to each rear wheel. Doesn't let one wheel spin and bog down. With this Studebaker advance, Transtar Trucks are more effective for off-road work. It makes handling, even on rough roads or at highway speeds, easier and safer, too. Drive a new Studebaker Transtar with driving power that always gets you through. Available on half-ton units. Don't spin your wheels. Order your new Studebaker Transtar Truck at your nearest Studebaker dealer's today.

CHECK THESE TRANSTAR TRUCK FEATURES:

- ★ Shortest stroke V8 in the industry—bar none!
- ★ Widest pick-ups and stakes in the low-tonnage field!
- ★ Passenger car ride with two-stage springs!
- ★ Easier handling with cross-link, variable ratio steering
- ★ Enclosed safety cab step and other safety features
- ★ Load-engineered extra strength, deep-frame chassis

TUNE IN "TV READER'S DIGEST"

STUDEBAKER TRANSTARS

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★

star performers with saving ways

STUDEBAKER DIVISION OF STUDEBAKER-PACKARD CORPORATION—WHERE PRIDE OF WORKMANSHIP STILL COMES FIRST!

Make it this easy... FOR PROSPECTS TO BUY FROM YOU

One way to increase business is to have your advertising in the right place at the right time... in the 'Yellow Pages' of the telephone directory.

It's a sure, economical way for new customers to find you easily... and to remind old ones of you when they want the branded products and services you carry.

Advertisers of branded products are using this emblem to tell prospects how to find their dealers.

For more information, get in touch with the Classified Telephone Directory Representative at your local Telephone Business Office.

Home improvement Year launched as govt.-ind. Effort

A LUNCHEON in Washington, D. C., January 16, officially proclaimed 1956 as "Home Improvement Year." Albert M. Cole, Administrator of the U. S. Housing and Home Finance Agency, on behalf of President Eisenhower issued the formal declaration.

Other speakers at the luncheon were Boyd Campbell, president, U. S. Chamber of Commerce; John R. Doscher, executive director, Operation Home Improvement; and Fritz B. Burns, prominent West Coast builder.

Operation Home Improvement is being sponsored by the U. S. Chamber of Commerce and some 50 companies and trade association in the building, home equipment and finance fields. The Government, through the Housing and Home Finance Agency, is lending its full-fledged support to the year-long promotional campaign.

Symbol of the program is a spread-eagle seal bearing the slogan "56—the Year to Fix." The two main purposes of the program are to interest people in improving their homes; and to make it easier for them to get financing, materials and services.

More than 600 million dollars worth of national and local advertising will be tied in with the campaign by manufacturers, builders, contractors, architects, dealers, retailers and lenders.

Consumer and trade magazines are devoting entire issues or major editorial attention to the campaign. Sears, Roebuck will set up Ohi information booths in 700 stores throughout the country—one of them was on display at the Washington meeting.

Committees and community programs have been set up in Seattle, Cleveland, Chicago, Los Angeles, Denver, Oakland, St. Louis, Topeka, New Orleans and Buffalo.

Chairman of the co-ordinating committee is F. Stuart Fitzpatrick, U. S. Chamber of Commerce. H. R. Northrop, National Retail Lumber Dealers Association, is treasurer. John R. Doscher, formerly assistant to the publisher of *Life* is executive director and Don Moore is assistant director. National headquarters are at 10 Rockefeller Plaza, New York 20.

Dodge says 1955 Building reached an all-time High

LAST YEAR set new records in all three of F. W. Dodge's basic classifications of contract awards for future construction. The year's total of $23,745,277,000 was an all time high; 20% higher than the 1954 total which had broken previous records.

The month of December set the top mark for any December at $1,920,754,000; up 5% from December 1954. Both the non-residential and heavy engineering classifications set new December records.

Thomas S. Holden, Dodge's vice-chairman, pointed out that the 20% year's increase was noteworthy because the gain of 1954 over 1953 was only 13%. He said that the year's construction program as a whole was a better rounded one than that of the previous year because each classification showed nearly equal percentage gains over 1954.

In dollars and percentage increases the classifications showed up this way. For the year: Non-residential, $8,496,829,000, up 19%; residential, $10,185,259,000, up 20%; heavy engineering, $5,063,189,000, up 22%.

For December: Non-residential, $726,825,000, up 4% over December 1954; residential, $711,206,000, down 7%; heavy engineering, $482,723,000, up 32.

❖

Willard F. Rockwell, Jr., president, Rockwell Manufacturing Co., was elected president of the Pennsylvania State Chamber of Commerce recently. He succeeds Joseph C. Feagley, vice president, Armstrong Cork Co.

Parker Badger has been appointed by the Milwaukee School of Engineering as acting chairman of the school's Mechanical Engineering Department. A 1953 graduate of the school and a 1955 honor graduate of the University of Illinois, Badger will supervise the development of MSOE's new mechanical engineering laboratories. At the same time, it was revealed that *Harvey Castelaz* had been named acting head of the Refrigeration, Heating and Air-conditioning Section.

Skuttle

ALL-OVER AIR FLOW gives you an EXCLUSIVE sales advantage

Skuttle
Model 760
VAPOGLAS
TRUNKLINE HUMIDIFIER

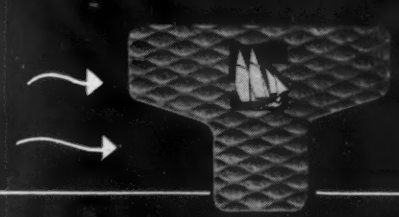
Complete all-over air flow on plate surfaces means more efficient operation.

Maintains lower pan temperatures. Less lime in water. Less clog.

Up to 912 sq. in. of evaporating area with Vapoglas plates. Means more efficiency.

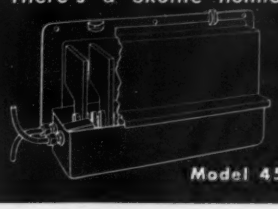
Easily mounted in trunkline. Saves more time.

For further information, write to:

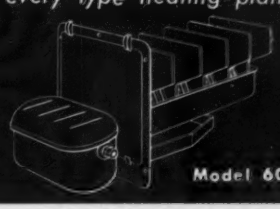


Skuttle
MANUFACTURING COMPANY
Milford, Michigan

There's a Skuttle humidifier for every type heating plant



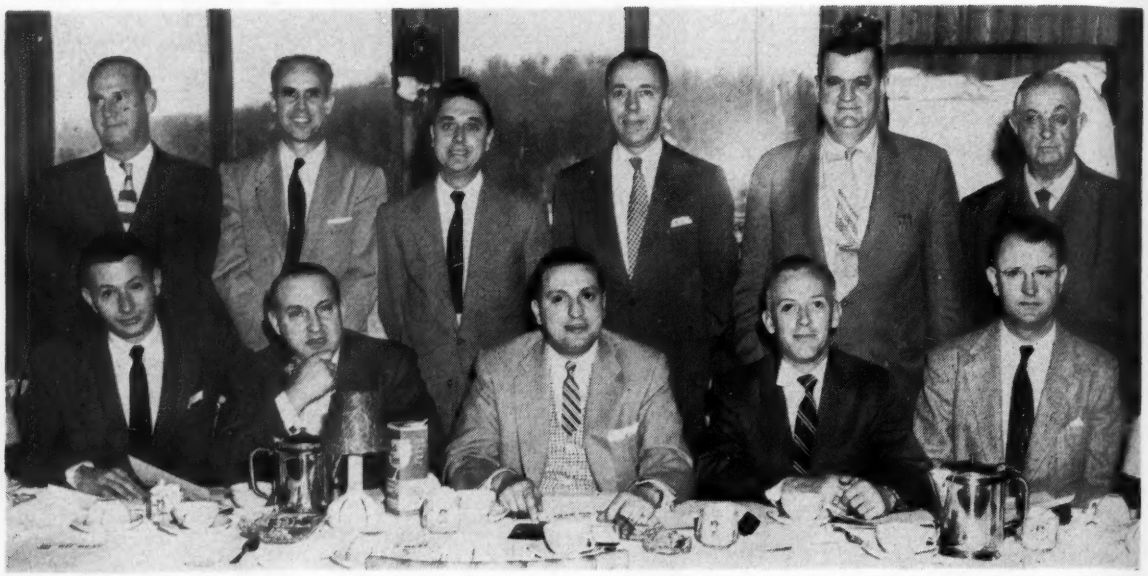
Model 450



Model 600 B

OILHEATING MEN make MARKETS

Twelfth of a Series
Long Island, N. Y.



Officers, *directors and committee chairmen of the Oil Heat Institute of Long Island: Seated, left to right: Leonard Braun, Piping Rock Fuel; Treasurer F. A. Kopcienski, Village Plbg. & Htg.; President Patrick F. Caputo, Rite Fuel; Dan Farrell, Petroleum Heat & Power; Branson Wright, Magee Petroleum.*

Standing, left to right: Thomas F. Hickey, Meenan Oil; William Kane, Lewis Oil; Tom Dixon, Sed-Lak Htg. & Metal Spec.; Charles Hollinger, Universal Utilities; Charles Krumenacker, Bedford Oil & Burner; J. Wright.

Directors not pictured: Vice-president for Nassau County, Charles E. Bennett, L. J. Bennett; J. Ain; Frank Furhmann, Swezey Fuel; Sam Albicocco, Nick Bros.; Jerry Magee, Magee Fueloils; Vice-president for Suffolk County, William R. Marran, W. R. Marran Sons, Inc.; Jim Mulligan, Nassau Mutual Fuel.

LONG ISLAND starts effective PROMOTION

Oil Heat Institute of Long Island

Robert M. Barr, Executive Secretary

IN AREA AFTER AREA, all over the country, oilheating groups are getting together in concerted effort to organize cooperative advertising promotional programs to help sell oil heat to the public. Some of these programs started as early as 1951; others are just now getting underway.

One of the more recent campaigns is that being developed by Oil Heat Institute of Long Island. While the organization is less than a year old, its advertising promotion program began immediately on a modest scale and is moving into high gear for 1956.

One of the first steps was the development of a "trade emblem" which would be easily recognizable and yet carry with it the concept of a seal of approval. The seal aspect was adopted first and the "animated character" grew directly out of the seal itself. For several months the emblem was used in all advertising, along with the phrase "Deal with the Seal." At the same time truck decals bearing the same emblem were made available to members.

In October all advertising was slanted to a contest to give little character a name. Since the public had had an opportunity to see him many times the response was good and the name "Little Bill" (pointing up the economy of oil heat) was chosen from among the finalists by a panel of representatives from the major companies.

A Christmas ad used "Little Bill" to get across the seasonal message; the tag for the basic theme illustrated, will be used in all media. It already appears on billboards and is in production for bumper strips, window display cards, truck signs and direct mail stuffers. Month by mouth, the program is laid out to help participating companies build sales—on new installations, oil hot water heaters and conversions from other fuels.

Since a substantial cost difference in oil's favor exists on Long Island, considerable emphasis will be placed on the economy of oil heat. All cost comparisons will contrast oil with "the monopoly fuel."

The genesis of OHILI in the early part of 1955 was the bringing together of nine separate organizations in Nassau and Suffolk Counties. These were: Long Island Oil Terminals Association; Oil Heat Association of South Nassau; Oil Heat Association of North Nassau; Mid Island Oil Heat Association; Western Suffolk Fuel Dealers Credit Association; Huntington Fuel Oil Association; Central Suffolk Fuel Dealers Credit Association; South Shore Fuel Dealers Credit Association; Eastern Suffolk Fuel Dealers Assn.

Six of those groups had charters from OHI of America, but all six agreed to relinquish them and join the Island-wide Group. First officers were elected in early May and activity began not only on advertising promotion but also on a campaign designed to eliminate the Type B gas vent. By August the basis for an Island-wide credit service was established. The organization is currently preparing a compensation insurance program, in cooperation with the New York Oil Heating Association.

Paid up membership is growing rapidly and is now about 200.

The President, Patrick F. Caputo, of Rite Fuel Corporation, Hicksville, feels that a good part of the rapid growth can be attributed to the unanimous zeal with which the board of directors and membership have approached each specific project.

Starting in October OHILI, in cooperation with Long Island Agricultural and Technical Institute, of Farmingdale, sponsored an eight-week refresher course for oilburner servicemen. Almost 200 servicemen and dealers from all over the Island took this course and were honored by a banquet and special certificates, at the general meeting of OHILI on last December 14.

A number of plans have been made for further educational programs.

Basic in the concept of Oil Heat Institute of Long Island are two major points. The first is that the organization must be a broadly-based one, which is truly representative of the oil-heating industry as a whole; and the second is that the group must work in close cooperation with the other oil-heating associations in and around metropolitan New York.

The latter concept has already been put into effect with New York Oil Heating Association, Oil Heat Council of New Jersey and Westchester Oil Trades Association. It is expected that OHILI will work actively with Better Heat With Oil Council, Inc., industry-wide organization set up in New York City to educate the public on the many advantages of automatic oil heat, promote its sale and increased use. As a matter of fact, all our advertising-promotional material is offered for use by any oilheating group in the country which might be able to adapt certain phases of the program to its own use.

In the words of President Caputo, "We're just getting started on Long Island, the first year is always the toughest, but just watch us in 1956. We expect to sell not only more oil heat but better oil heat as well!"

"LITTLE BILL" SAYS:

SAVE with **SAFE**

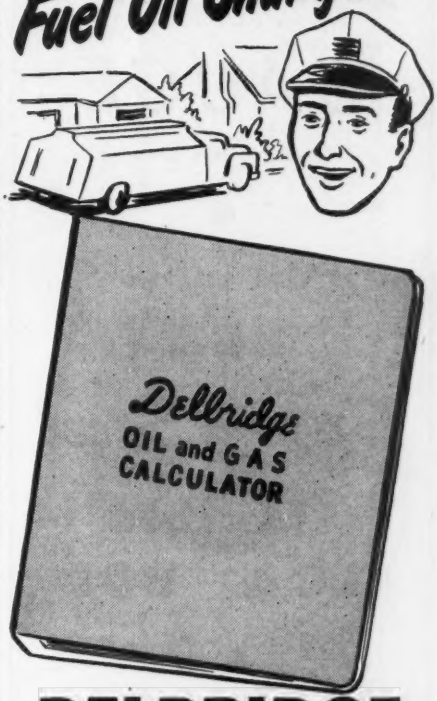
OIL HEAT

Oil Heat Institute of Long Island, Inc.

Hempstead, L. I., N. Y.

Reproduction *of basic theme of* OHILI *advertising, featuring the "Little Bill" emblem. It's used or will be soon in advertising, billboards, bumper strips, display cards, truck signs and direct mail stuffers.*

Fastest, Easiest Way to Figure Fuel Oil Charges!



DELBRIDGE
Oil & Gas Calculator

Stop figuring fuel oil charges the old-fashioned, long-hand way! No more errors—no more dissatisfied customers!

Figure fuel oil charges fast—easily—accurately—with the DELBRIDGE Oil & Gas Calculator! Total amount of sale is *pre-calculated* for you without laborious long-hand figuring and errors—simple as finding a phone number!

Covers prices from 5¢ to 35¢ per gallon by steps of 1/10¢. Shows gallonage from 1 to 250 gallons by steps of 1 gallon—then to 5,000 gallons in easy steps.

Durable, long-lasting leatherette metal-ring binder. Only 5¼" x 6½"—fits easily in coat pocket. Guaranteed accurate by Lloyd's of London. Only $5.00 each.

Try the DELBRIDGE Oil & Gas Calculator for 10 days . . . *without obligation!* Prove to yourself how it can save time . . . cut down costly errors. Mail coupon for FREE 10-day trial. *Send no money!*

FREE TRIAL COUPON!

DELBRIDGE CALCULATING SYSTEMS, INC.
2502 Sutton Ave., St. Louis 17, Missouri

Send the DELBRIDGE Oil & Gas Calculator . . . *without obligation!* We will approve your invoice for $5.00 (plus postage) within 10 days if we decide to keep the Calculator.

Name.....Title.....

Company.....

Address.....

City.....Zone...State.....

BEARLEE

Tattle-Tale

TRADEMARK

GAUGE

Underwriters Listed

●

WITH THE

NEW

Spring Steel

Flexible

FLOAT ROD

For

42" and 44" Tanks

●

Dealers . . . Don't delay . . . write today for our low prices.

Dealers that have had this new "Tattle-Tale" Gauge have reordered.

They report customers like this new trouble-free . . . easy to install gauge and particularly like the new Flexible Float Rod. Why don't you try it? It will pay you to stock it.

Bearlee
"Tattle-Tale" Gauges

MANUFACTURED BY

homeward Products, Inc.
3420 S. W. 9th St.
Des Moines, Iowa

Tattle-Tale Is a Registered Trade Mark

Trading Stamps questionable for the oilheating Industry

by

Donald H. McGovern*

WE NOW HAVE four stamp plans operating within the State of Maine and several independent schemes. Because a lot of our people are asking "should I get into the stamp plan?" it would seem time to take a more calculated look at stamp plans in general.

The plan itself dates back to the 1860's, and seems to come into prominence in periods of prosperity. The 1890's, the 1910's, the 1925's, and now the 1950's—all were prosperous times—and all saw the growth of trading stamps.

It is said that the trading stamps cost only 1½% to 3% of gross business. Actually the cost is 2% to 4% of gross business, and in order to justify that expense volume of business should increase from 20% to 50%.

Each salesmen of a stamp plan says that no one else in the area will have his plan . . . they won't have his plan, but they will have one of their own. There are some 26 different plans to choose from. Therefore, there is no competitive advantage to having one of them.

There are some sound reasons why the stamp plan is not good business: No genuine public good results from such enterprises because a false standard of merchandising is set up in the public mind, based on the theory of giving something for nothing.

Such plans tend to form cliques of merchants with a natural consequence of ill-will and strife. Stamp plans take a lot of money out of town for the promoter. To think that customers will buy more because of stamps, even what they don't need, just to get stamps for their books is only a dream.

Eventually merchants are forced to raise prices when they give out trading stamps. Few in the oilheating industry can afford to give away 2% or 3% of profit. Few fueloil dealers can give away ½¢ per gallon of oil.

Stamps plans make a merchant more stamp conscious in his promotion than oilheating conscious. Special promotions are particularly expensive; one merchant has a double stamp day; and then his competitor retaliates with a triple stamp day.

A good town in which to do business is one that is on a clean competitive basis, selling at fair prices with no discount. Once the stamp practice is begun, it is extremely difficult to drop.

*Executive secretary, Maine Oil & Heating Equipment Dealers' Association.

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Standard President says Utilities want Controls

AT A MANAGEMENT CONFERENCE of Standard Oil Co. (Ind.), Frank O. Prior, president said that powerful gas utilities are leading the fight to put the 8,000 competing natural gas producers under utility controls.

"Establishment of the Council of Local Gas Companies to oppose the Harris bill has defined the battle lines. Many of the people who were fighting for utility regulation of wellhead gas prices have pretended the battle was between consumers and producers. Now it has been made clear this isn't the case. Instead, the fight is between 40 utilities with local monopolies and the 8,000 competing producers in the field," he said.

He maintained that these 40 utilities are some of the nation's biggest and most powerful gas distributors. Yet they represent only 3-1/3% of the 1200 local gas distributing utilities in the country.

"The real leaders of this council are, in general, utilities that are charging consumers the highest prices and taking the largest part of the consumer's gas dollar," he charged. Prior used the Brooklyn Union Gas Co. as a prime example. This utility gets natural gas that the producers sold in the field for an average of 7.8¢ a thousand cubic

take the HEIL PARKWAY LINE to profits!

For those who want valuable "brand-name" efficiency and dependability with a limited heating budget, HEIL offers its *Parkway Line* of handsome winter air conditioners and boiler-burner units.

All the HEIL superlatives apply to this new line — top performance, maximum dependability, minimum service requirements — and now you can add one more: *lowest cost consistent with top quality!*

new!
Model JF-0 Highboy
Oil-Fired Winter Air Conditioner
84,000 BTU Output

new!
Model DF-0 Counterflow
Oil-Fired Winter Air Conditioner
84,000 BTU Output

new!
Model JFG-0 Highboy
Gas-Fired Winter Air Conditioner
95,000 BTU Input

new!
Model DFG-0 Counterflow
Gas-Fired Winter Air Conditioner
95,000 BTU Input

Model BFG-0 Lowboy
Gas-Fired Winter Air Conditioner
90,000 BTU Input

Model BF-0 Lowboy
Gas-Fired Winter Air Conditioner
84,000 BTU Output

Model WB-1 Pre-Assembled
Oil-Fired Boiler-Burner Unit
93,000 BTU Output

STOP! when it comes to BRAND NAME heating, competitively priced . . .

LOOK first to the PARKWAY line! HEIL profit story!

LISTEN to the

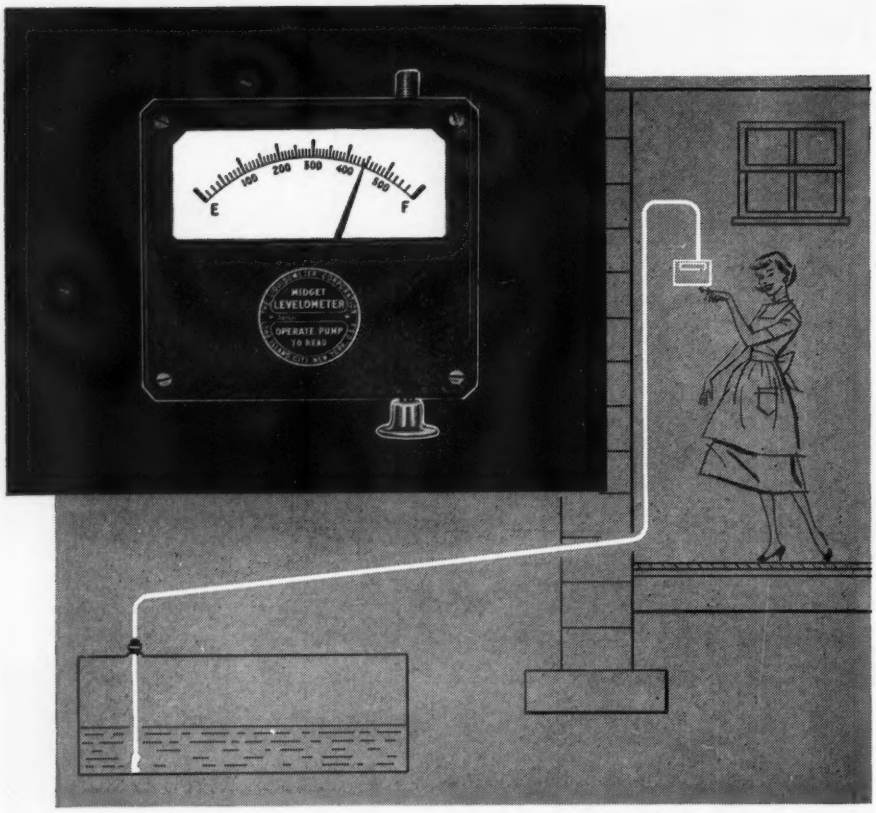
THE HEIL CO.

3083 W. Montana Street, Milwaukee, Wis. • Hillside, N.J.

SALES OFFICES: New York, N.Y.; Union, N.J.; Atlanta, Ga.; Cleveland, Ohio; Chicago, Ill.; Milwaukee, Wis.; Kansas City, Mo.; Denver, Colo.; Dallas, Texas; Los Angeles, Calif.; Seattle, Wash.

The Heil Co. is a member of OHI, GAMA and an associate member of NHAW.

fueloil & oilheat



LOW-PRICED...QUALITY MIDGET LEVELOMETERS

GIVE DEPENDABLE INDICATION OF TANK CONTENTS

Midget Levelometers provide home owners and plant engineers with reliable, easy-to-read, trouble-free indication of fuel supply. The dangers and inconvenience of old-fashioned dip sticking and taping methods are eliminated. In the plant, fire and labor hazards are cut . . . costly shut-downs caused by lack of fuel are avoided.

Levelometers operate on an adaptation of the hydrostatic principle. They establish a balance between the height of the liquid to be measured and an indicator. Dial type indication provides maximum readability. Levelometers are precision built, rugged, easy to install and constructed of the finest materials. Approved by UL, FM and BSA, New York, they are used for gaging fuel oil, diesel oil, gasoline and a variety of other liquids.

Levelometers are available in several sizes for a wide variety of applications. For complete information write Dept. C.

LIQUIDOMETER INSTRUMENTS

THE LIQUIDOMETER CORP.

SKILLMAN AVENUE AT 36TH STREET, LONG ISLAND CITY 1, N.Y.

feet. Brooklyn pays the Transcontinental Gas Pipe Line Corp. 32.2¢ a thousand and then charges the customer $2.22 a thousand cubic feet. Thus, the company takes the total of $1.90 a thousand for distribution costs and its own profit.

In percentages the producer gets 3.5% and the utility gets 85.5% of the customer's dollar. According to Prior this means there should be no fight between the producer and the consumer.

Prior pointed out that utilities do nothing to find or develop one cubic foot of natural gas; they do not stand any exploration costs; they live off the efforts of those who do take the risks finding the gas and the consumers using it in their homes.

"Even when you have reasonably low cost distribution, as you have in Detroit, the producer still gets a very small part of the consumer's dollar," said Prior. "In 1953, the latest year for which complete figures are available, the distributor got 87.2¢ a thousand; the producer got 8.9¢."

Prior maintains that the consumer is complaining to the wrong source when he chastises the producers. "Such complaints should get to the gas distributors—particularly to those that have formed the Council of Local Gas Companies."

Standard's president feels that the only way to keep gas reasonably priced is to discover adequate reserves to keep pace with consumer demand.

He concluded his talk by saying that the nation badly needs Senate approval of a bill exactly like the Harris bill. That bill frees producers from the direct utility-type controls that can only smother their incentives, but it still gives the consumers abundant production against unreasonable field prices.

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Advisory Committee named for OHI's Education Program

AN ADVISORY COMMITTEE of educators has been named to assist the Distribution Division, Oil-Heat Institute, in expanding its National Education Program.

The committee is under the chairmanship of Karl Werwath, president,

Milwaukee School of Engineering. Serving with him will be Dean Lawrence Barden, Hofstra College; John Davies, Lincoln Technical Institute; Julian Gouse, Massachusetts Trade Shops School; Earl Hutchinson, Maine Vocational-Technical Institute; and L. T. White, Cities Service Oil Co.

Plans call for six to nine Management Conferences each year, and the committee will pass on the content of the courses from an educator's point of view. Two of these Institutes have been held and the next is scheduled in February at Hofstra College, Hempstead, N. Y.

In addition, technical educational films and service and installation schools are being developed. Ben Wiechers, chairman of the National Education Committee, is directing the service school phase.

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Supplementary Statistics from January issue Survey

SPACE LIMITATIONS prevented the following data from being included in the January issue's oilheating review of 1955 sales activities. The information supplements the statistics published therein on commercial oilburners and adds material on the merchandising of summer airconditioning equipment by oilheating dealers.

The oilheating dealers who participated in our annual survey experienced considerably accelerated activity in their sales of Nos. 4 and 5 and No. 6 oilburners. There were in 1955 reports from 13% of the dealers indicating they sold burners designed for Nos. 4 or 5 oil, and, while this compared with a percentage of 15.4% in 1954, dealers reported that in 1955 they sold an average of 22 of these burners; in 1954 they had reported average sales of 8 burners each.

A higher percentage of dealers told us they were selling burners for No. 6 oil in 1955—13% as against about 8% in 1954—and the average number of such burners sold by these dealers jumped from 5 to 37.

Four percent of the dealers sold steam generators in 1955, the same percent which had reported this activity in 1954, with average sales of 3 each, compared with 2 in 1954.

Reporting on their sales of commercial boilers, 15% of the dealers sold an average of 4 boilers each in the 800 to 1500 sq. ft. net steam category; also 15% of the dealers told us they sold an average of 3 boilers each in sizes above 1500 sq. ft. Comparative reports in 1954 showed that an average of 7.7% of the dealers sold 6 each of the smaller boilers and 9.1% of them sold 4 each of the larger sizes.

Summer Airconditioning

There were 42% of the participating dealers who reported they sold some kind of summer airconditioning in 1955, either room units or central cooling systems. While it appeared from the survey that the same percentage of dealers sold room airconditioning in 1955 as in 1954, since 28% reported this activity both years, increased sales pushed the total per dealer to 17 as against the average of 9 sold in 1954. Almost the same situation prevailed with regard to central airconditioning systems, too. About 23% of the dealers sold these units in 1955 for an average of 15 systems each; in 1954, on the other hand, 20% of the reporting dealers sold an average of 6 units each.

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Gulfstream Chapter plans February 28 dinner Party

A QUIET DINNER PARTY is planned for the annual get-together of the Gulfstream Chapter of the Oil Heat Industry, to take place at the Coral Ridge Yacht Club, Ft. Lauderdale, Fla. on February 28, commencing with cocktails at 6:30 P.M.

The Chapter is a fun organization formed by members of the oilheating industry vacationing in Florida and some local residents. This is the sixth annual meeting of the group.

Those who wish to attend should contact Jim Owens at the Mercoid Corp., 4201 Belmont Ave., Chicago; John Hancock, 801 Ponce de Leon Drive, Ft. Lauderdale, Fla. or Art Winkler, 1528 Coral Ridge Drive, Ft. Lauderdale, Fla. Reservations should be made by February 26.

Switch to - -

LINCOLN

Gas-Fired and Oil-Fired Furnaces and Air Conditioners

COMPLETE LINE
—size ranges from 75,000 to 180,000 B.T.U. output at bonnet.

COMPLETE PACKAGE UNITS
—factory assembled and tested—ready to install.

10 YEAR WARRANTY
—on both the combustion chamber and heat exchanger.

MAXIMUM HEAT TRANSFER
—assured by high efficiency 12 gauge steel heat exchanger.

FULLY U/L APPROVED
—and acceptable by both F.H.A. and V.A.

COMPETITIVELY PRICED
—every unit priced to meet today's competitive market.

Exclusive distributor and dealer franchises are available in certain desirable areas. Inquiries are invited.

WRITE FOR FULL INFORMATION

LINCOLN FURNACE Co., Inc.

MANUFACTURERS OF GAS & OIL FURNACES AIR CONDITIONERS

232 Goffle Road • Hawthorne, N. J.

ELIMINATE This...

OUTSIDE BAG FROM YOUR G. E. or PREMIER FURNACE CLEANER

...Get the SOOTMASTER Filter Unit

with THROW-AWAY BAG!

SOOTMASTER Filter Unit, designed for easy installation in container of G. E. and Premier Furnace Cleaners, eliminates the outside bag. Gives double protection against leaks and blow-outs. THROW-AWAY BAG provides a safe and easy method of dirt disposal.

$19.75 Complete with 10 throw-away bags and quick-release tie-cord.

• Order from your jobber
• Jobbers' inquiries invited

Master-Craft SUPPLY CO., INC.
HAVERSTRAW, NEW YORK

Industry Groups

Activities of local and national industry associations are reported monthly in this department. Secretaries are invited to send reports of their Group's activities to the editor by the 5th.

Indoor Comfort Conferences set by Warm Air Association

TWO-DAY SCHOOLS for heating and air-conditioning dealers began this month, sponsored by the National Warm Air Heating and Air Conditioning Association.

Date, city and local chairmen of future Indoor Comfort Conferences are as follows: Feb. 6-7, Birmingham, Ala., George F. Wheelcock; Feb. 9-10, Atlanta, Ga., L. J. O'Callaghan; Feb. 13-14, Charlotte, N. C., Bruce O. Leister; February 27-28, Louisville, Ky., Lee F. Tinsley, Sr.

March conferences are as follows: 1-2, Cincinnati, O., G. W. Denges; 5-6, Columbus, O., Newt T. Hess; 8-9, Pittsburgh, Pa., Paul S. Agey; 12-13, Newark, N. J., Edward S. Franklin; 26-27, Cleveland, O., John Petri; 29-30, Buffalo, N. Y., J. A. Collins.

April conferences: 2-3, Albany, N. Y., Earl R. Welker; 5-6, New Haven, Conn., A. J. Alderman; 9-10, Indianapolis, Ind., Al Nemec; 18-19, Minneapolis, Minn., George Zingsheim; 23-24, Denver, Colo., J. H. Singleton; and on 26-27, Salt Lake City, Utah, Alan E. Huish.

Another project of the Association is the college short courses in heating and cooling applications. These are conducted jointly by the association and a number of colleges. The schools run four days and students can select a small residence, a large ranch type residence or a commercial building for study.

The schedule for the short courses opened at Mississippi State College, January 16-19. Other courses will be held at Oklahoma A & M, February 20-23; Purdue University, March 7-10; Michigan State University, April 2-5; North Dakota State College, April 9-12; Iowa State College, April 16-19; Penn State University, March 28-30; Syracuse University, April 4-6; and Long Island T & A Institute, University of the State of New York, starts April 23.

Additional information on the Indoor Comfort Conferences and the College Short Courses can be gotten from the Association, 40 Engineers Building, Cleveland 14, O.

Massachusetts OHA hears Talk on domestic hot water Heating

EDWARD WASHAK, Everhot All-copper Tankless Co., was the guest speaker at the January 10 meeting of the Massachusetts Oil Heating Association in Boston.

He spoke on the sale of year round domestic hot water equipment. He also discussed how to install and service tankless equipment. Questions of the members were answered in an open forum after the talk.

Steel Boiler Manufacturers discuss Promotion, Research

RESEARCH, SALES PROMOTION, boiler ratings and consumer publicity were among the topics discussed at the fall meeting of the Steel Boiler Institute, Inc., at the Williamsburg Inn, Williamsburg, Va.

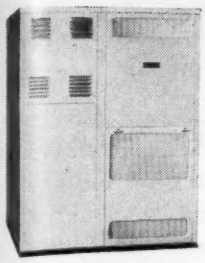
A slide film reporting on the publicity obtained by the Plumbing and Heating Industries Bureau for the hot water and steam heating industry was shown by Norman J. Radder, secretary.

Ralph Becker, Oil-Heat Institute, recommended that there be closer cooperation between the engineering committees of OHI and SBI.

In the absence of L. N. Hunter, chairman, John Turner presented the report of the engineering committee which covered a test program on boiler tubes, proposed revisions in SBI testing and rating code, water gauges for steam boilers and ASME code revisions.

Other reports were given by Paul K. Addams, chairman of the Better Heating-Cooling Council, and William Ferguson, chairman of the Uniform Boiler and Pressure Vessel Laws Society, Inc.

R. A. Locke, president, announced that the annual meeting of the Institute will be held at the Brown Hotel, Louisville, Ky., on May 14 and 15.



5 TON
Water Cooled
Year 'Round Air Conditioner.
Gas Fired: 175,000 or
140,000 B.T.U. Input.
Oil Fired: 140,000 or
112,000 B.T.U.
at Bonnet.

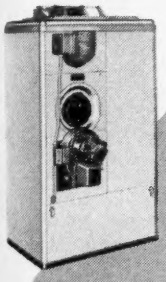
Simpler... Speedier... Easier...

MORE PROFITABLE

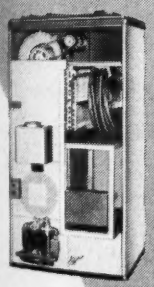
Installations With

MONCRIEF

Year 'Round Air Conditioners!



2 OR 3 TON
Year 'Round Unit.
Gas or Oil Fired.
3 Ton, Air or Water Cooled
—140,000 B.T.U. Input.
2 Ton, Air or Water Cooled
—100,000 B.T.U. Input.



COUNTERFLOW
2 or 3 Ton
Year 'Round Unit.
Gas or Oil Fired.
3 Ton, Air Cooled only
—140,000 B.T.U. Input.
2 Ton, Air or Water Cooled
—100,000 B.T.U. Input.

For the home owner, the builder or the architect who wants year 'round air conditioning for his home, you can give him what he wants when you sell him the Moncrief Year 'Round Air Conditioning Unit—an up-to-date, 1956, modern type of unit—with both the Heating Plant and Cooling Circuit built into a single cabinet, which is compact, attractive and superlatively engineered.

2, 3 or 5 Ton Cooling is combined with a range of heating capacities to provide balanced distribution of heated and cooled air for virtually any operating condition. And, both the heated and cooled air are supplied from a handsome cabinet that requires less floor space than many standard furnaces.

Install Now for Gas or Oil Heating

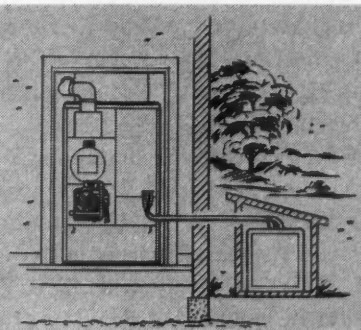
Without the Cooling System, the Moncrief Year 'Round Unit affords superior winter air conditioning—costs your customer but little more than a conventional heating unit. Your initial sale and first profit are assured!

Add Either Air or Water Cooling Later

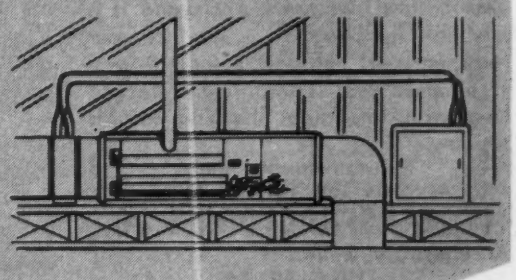
When your customer is ready, you can conveniently install either the 2 or 3 ton, Air Cooled Moncrief Cooling Circuit or the 2, 3 or 5 Ton Moncrief Water Cooled Circuit in the furnace cabinet. You then make an additional sale with a large, extra profit!

Your Moncrief Wholesaler is ready now, to show you how to get into a new Year 'Round Profit Picture,—*more profitably*—with the complete Moncrief Year 'Round Line. Call today!

WATER COOLED
Hermetically Sealed 2, 3 or 5 Ton Cooling Circuit is installed completely within Furnace Cabinet. Cooling Coil only of Air Cooled Circuit is similarly installed. And, as shown at right—



REMOTE AIR COOLED
2 or 3 Ton Condensing Unit is installed out of doors, or in another out-of-the-way place. Connection to Cooling Coil is made with Copper Refrigerant Tubing.



COMPACT, HORIZONTAL
application of Air Cooled Moncrief Cooling Circuit is shown above, with Cooling Coil installed in Air Discharge Duct of Moncrief Horizontal Furnace and Condensing Unit remotely installed.

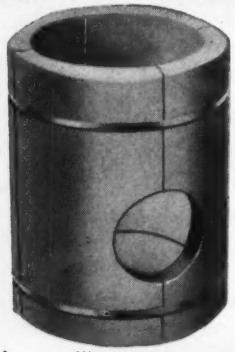
THE HENRY FURNACE COMPANY • **Medina, Ohio**

HEATING AND AIR CONDITIONING UNITS — MONCRIEF — FURNACE PIPE AND FITTINGS

SAVE TIME ON THE JOB
•
SAVE FUEL FOR YOUR CUSTOMERS

Install

NU STANDARD KOLBKAST COMBUSTION CHAMBERS



Here's why you'll save time on the job, fuel for your customers when you install NU STANDARD Kolbkast Combustion Chambers:

- there are only six pieces to assemble
- tongue and groove construction fits together quickly, snugly
- galvanized steel bands draw the assembly tight—prevent gas loss and improve combustion efficiency
- the base, recessed ¼", provides an air space that gives better insulation to the floor
- millions of air cells in the structure of the chamber itself retard the transfer of heat through chamber walls
- insulating properties are equal to insulating brick

The NU STANDARD can be used with high or low pressure burners and it is available in five sizes to meet all your requirements. Shipped complete with steelbands and scientifically packed to prevent breakage. Shipping weights are low.

Get full details today on these low cost chambers.

KOLB REFRACTORIES CO.
MEADOW & JACKSON STREETS
PHILA. 48, PA.

KOLBKAST INSULATED CHAMBERS

Heating Engineers of Illinois hear vibration control Talk

NORMAN J. MASON, chief engineer, Vibration Mountings, Inc., discussed the problem of noise control for airconditioning and ventilating systems at a recent meeting of the Illinois Chapter of the American Society of Heating and Air-Conditioning Engineers.

Another speaker was James J. Hughes, general manager, Industrial Sound Control, Inc.

Research, Technical Committee meet during ASHACE Convention

COMMITTEES ON RESEARCH and technical problems held meetings during the 62nd annual meeting of the American Society of Heating and Air-Conditioning Engineers at the Sheraton-Gibson Hotel, Cincinnati, O., January 23-25.

The annual meeting consisted of eight sessions running Monday through Wednesday during which 16 papers were presented and two symposiums were held. The papers covered such subjects as panel heating design procedure, solar radiation, and high velocity airconditioning for multi-story buildings.

A banquet closed the meeting and the new officers were installed at that time.

Indiana Warm Air Contractors plan Convention, February 2

THE 38TH ANNUAL CONVENTION of the Sheet Metal and Warm Air Heating Contractors' Association of Indiana, Inc., will be held at the Hotel Severin, Indianapolis, February 2-3.

Besides a number of industry speakers the convention will feature two panel discussions. W. E. Garber, Jr., will moderate the contractor business panel. J. W. Ridgway will direct a technical information panel.

Among the speakers are W. T. Miller and K. E. Glancy, both of Purdue University, C. W. Nessell and W. E. Garber, Jr. The convention committee has planned social gatherings highlighted by a banquet, Thursday, to leaven the business meetings planned. Chris Sorensen is convention chairman.

Report on Activities, Programs of Associations in New Jersey

A COURSE in oilburner installation and service is underway at the Essex County Vocation Schools, Newark, N. J. It will run through March 19.

The interim poster advertising schedule has been released by the advertising committee, Oil Heat Council. Some 40 posters, 21 illuminated, will appear in New Jersey starting February 15 for a four month period. Starting on July 15 the number of posters will be increased to 195. The Council feels that the greatest number of customers are traveling at that time and so will be reached by the billboards.

Sussex County dealers met at Newton, N. J., January 13 to hear an address by Bill Norton, president of the state association.

Mercer County dealers met January 12 in Trenton. They heard Norton and saw a fire prevention display put on by a representative of the Du Pont Co.

National Heating Wholesalers announce Officers, Trustees

AT THE NOVEMBER CONVENTION of the National Heating and Airconditioning Wholesalers, Inc., Columbus, O., in New York, Gail C. Mason was elected president.

Serving with him are Glenn A. Ashburn, president elect; A. G. "Bert" Ernshaw, vice president; Oscar P. Brauer, secretary and Arthur M. Vorys, treasurer.

Regional trustees are George Egan, Jack Allen, Robert E. Holcombe, Harold Squire, E. D. Mott, T. J. Delaney, A. M. Thys, Harry Bruce, Paul Huish, Donal Piper and W. H. Bowe, Jr.

W. R. "Wib" Bull is executive director of the association.

North Carolina Oil Jobbers plan Convention aboard cruise Ship

CRUISE SHIP, the Queen of Bermuda, will be the site of the 1956 convention of the North Carolina Oil Jobber Association. The convention begins May 26 sailing from Norfolk, Va.

Business sessions will be held on board ship. During the stay at Havana and Nassau the ship will serve as the group's hotel.

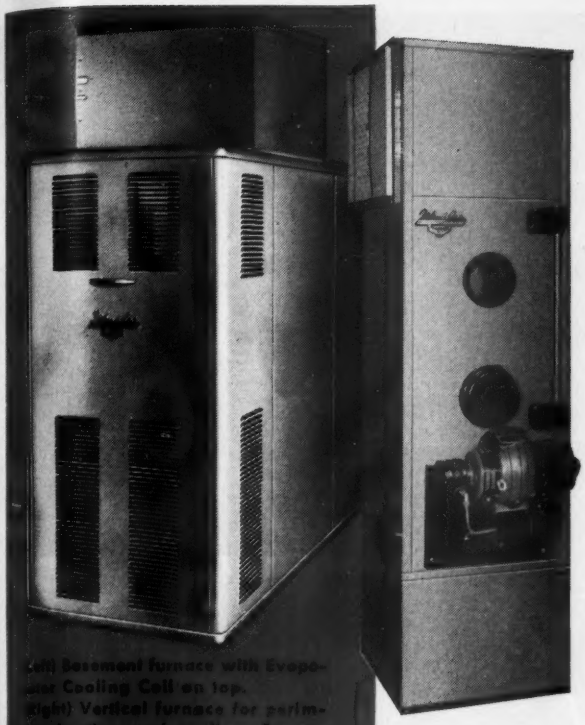
NO "OFF" SEASON
WHEN YOU SELL
WINKLER

Complete heating—cooling line keeps sales up the year 'round

For *heating* only...for *heating and cooling*...or for *cooling* only, there is no home comfort requirement which can't be satisfied with Winkler equipment. In selling either new home builders or modernizers, you need never miss a sale because of a "short" line. The illustrations here show a few of the many combinations possible with Winkler Heating and Cooling Products.

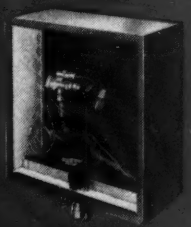
Winkler backs up *quality of product* with thorough instruction in *productive salesmanship!* At the Winkler Training Institute, ingenious "visualizers" and expert instructors take all the mystery out of air conditioning—show dealers how to sell Winkler Products and install them for maximum customer satisfaction.

That's why the Winkler Direct Factory Franchise is a growing and enduring asset for dealers who take advantage of its many profit-making features. Why not write today for details.

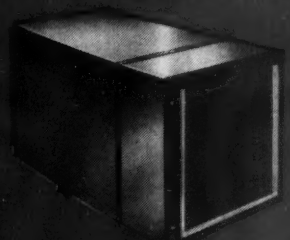


Left) Basement furnace with Evaporator Cooling Coil on top. Right) Vertical furnace for perimeter heating and cooling. Evaporator Coil is at floor level.

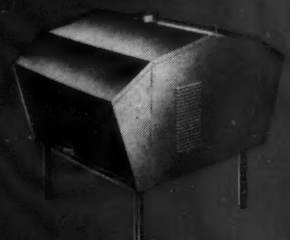
"A" Type Evaporator Coil without casing—for vertical air flow.



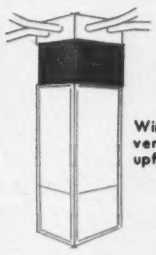
Evaporator Coil for horizontal air flow.



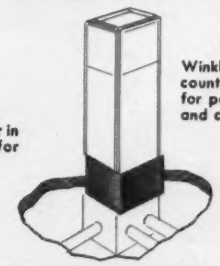
Blower and horizontal air flow Evaporator Coil.



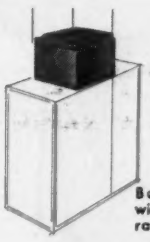
Condensing Unit. Rugged, ly construc- built of selected materials—in way qualified to perform effi-



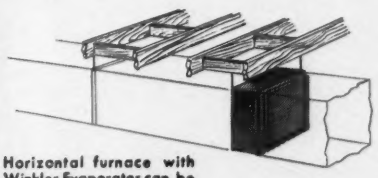
Winkler Evaporator in vertical furnace for upflow circulation.



Winkler Evaporator in counterflow furnace for perimeter heating and cooling.

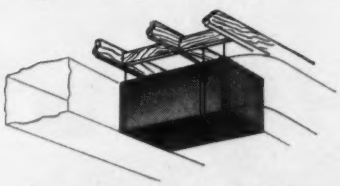


Basement furnace with Winkler Evaporator on top.

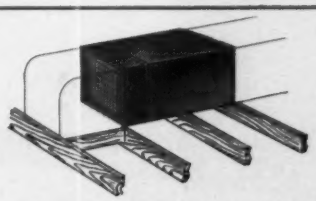


Horizontal furnace with Winkler Evaporator can be suspended in basement, crawl space or overhead.

Winkler Evaporator in duct work of forced circulation warm air system.



Basement or crawl space installation of Winkler Evaporator and Blower in steam or hot water heated home.



In homes with steam or hot water heat, a Winkler Evaporator and Blower may be installed in attic or upstairs hall.

Makers of Oil and Gas-fired Boilers and Furnaces...Gas Conversion Burners . . . Oil Burners . . . Stokers . . . Air Conditioning Equipment

WINKLER

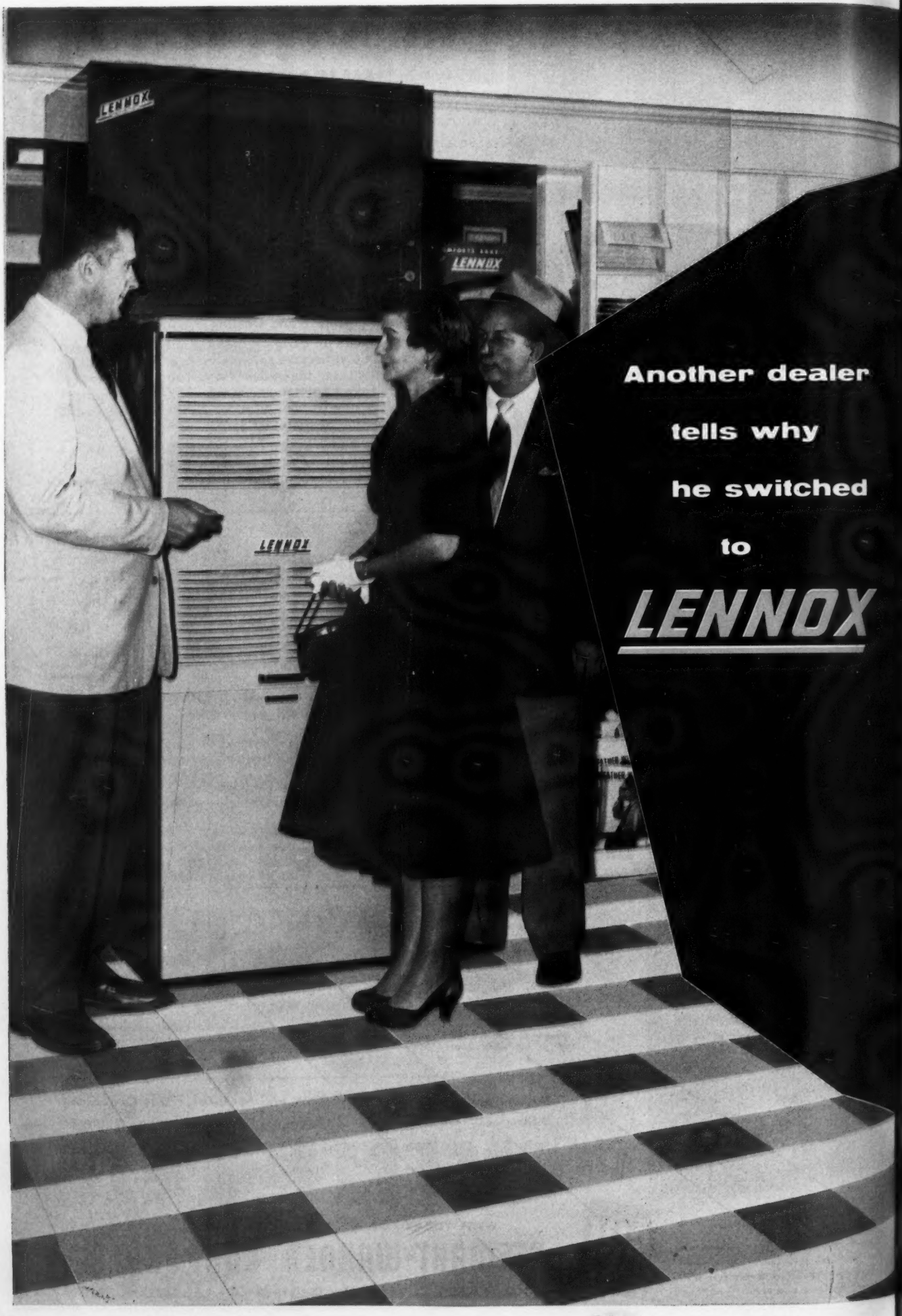
WRITE TODAY FOR DIRECT FACTORY FRANCHISE DETAILS

STEWART-WARNER CORPORATION

U. S. MACHINE DIVISION • Dept. H-26 • LEBANON, INDIANA

A PRODUCT OF SW STEWART WARNER

fueloil & oilheat


LENNOX
LENNOX
LENNOX
Another dealer
tells why
he switched
to
LENNOX

The Kay Company; Herb Kay, owner. Leading heating and air conditioning dealer in Waco, Tex.

"LENNOX®

Air Conditioning is More Profitable to Handle"

...says Herb Kay of Waco, Texas

"I checked all the leading lines before I made the switch to Lennox. So I knew I was getting just what I wanted in top-quality heating and air conditioning equipment, with greater profit opportunities. But I got even more than I dared hope for! Service is always same-day or next-day at the latest. The Lennox air conditioners are completely packaged; my men install them faster and never have to run back to the shop for missing parts. Better yet—a Lennox installation seldom needs warranty service calls. That actually puts *net* profits in the bank—quick! Since half of my $450,000 annual sales are in air conditioning, it's vitally important to me to have a full line that's easiest to install and requires the least amount of service. Believe me—that means Lennox!"

LENNOX Industries Inc.

Established 1895

Marshalltown, Iowa—Columbus, Ohio—Syracuse, N. Y.
Salt Lake City, Utah—Los Angeles, Calif.—Fort Worth, Texas—Decatur, Georgia—Des Moines, Iowa
In Canada: Toronto, Montreal and Calgary

CLIP AND MAIL *Today!*

Lennox Industries Inc.
(Address nearest branch. See locations at left.)

All right!—show me proof that Lennox is the most profitable line that I can handle. No obligation on my part.

Company_____

Address_____

City_____ State_____

My Name_____

SLOW RECEIVABLES

Got your head in a whirl?

THE ELDRIDGE

Streamlined

BUDGET PLAN

will definitely reduce your collection headaches to a minimum and also give you

...more working capital...

This complete, reasonably priced package deal . . . . includes customer literature, office forms and a "low priced" Remittance Packet which make it so easy and so convenient for your customers to mail in their Budget Payments on time.

write us for details

25 YEARS PROMOTING OUR OIL HEAT INDUSTRY

WM. H. ELDRIDGE

Advertising Service

87 MAYWOOD RD.
NEW ROCHELLE
NEW YORK

OHI's Distribution Division increases Membership in '55

NINE NEW CHAPTERS were added to the Cil-Heat Institute's Distribution Division during the last six months of 1955. Six were approved at the September Board meeting in Atlantic City and three more gained approval at the recent director's meeting.

During the last four months of the year Associations in Washington, Oregon, Maryland, Wisconsin, New England, Northern Ohio, Tidewater and Central Pennsylvania brought in a total of 400 new member companies. Washington was tops with 46 new members.

Hollis Albert, president, OHA of Maryland, is chairman of the national membership committee and has set a goal of 4,000 members by next summer.

The Division's "Dealer Digest" noted that the City of Camden, N. J. has banned the B-type flue. The law reads: All gas heating equipment shall be safely vented to a brick or stone chimney having a flue lined with terra cotta fireclay lining extending the full length of the chimney.

National Plumbing and Heating Show scheduled for June 11-14

THE AUDITORIUM in Milwaukee, Wisc., will be the site of the 1956 National Plumbing and Heating Exposition, June 11-14. The show will be held in conjunction with the 74th meeting of the National Association of Plumbing Contractors.

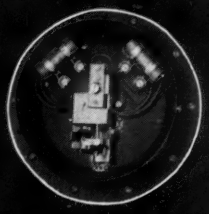
Harold E. Bartlett, Andrews, Bartlett and Associates, Inc., is the exposition manager. The entire exhibit area of the Auditorium will be utilized. Applications for space should be sent to the National Plumbing and Heating Exposition, 1849 West 24 St., Cleveland 13, O.

New England OHI schedules annual Meeting, April 12

THE ANNUAL MEETING of the New England Oil-Heat Institute, Inc., will be held at the Somerset Hotel, Boston, April 12.

Three speakers are scheduled to discuss selling and merchandising.

IT'S EXTREMELY "SENSITIVE"



MERCOID

DIAPHRAGM CONTROL FOR LOW PRESSURES

HAS HERMETICALLY SEALED MAGNETIC MERCURY SWITCH

Here's a diaphragm operated pressure control for use on low pressure applications where the control is required to operate from changes of fractions of inches of water (pressure). It has many applications such as for operating from changes in draft conditions (either forced or induced;) to operate from slight changes in head pressure; for high or low alarm devices on air or gas lines.

OPERATING RANGES—six ranges available from 0-1" pressure to 1-30" vacuum with sensitivities varying from .01" pressure to 0.2" vacuum depending upon range selected.

CIRCUIT ARRANGEMENTS—several models available to accomplish the following operations:

SPST—USING ONE MAGNETIC SWITCH—"switch contact opens on increase of pressure or switch contact closes on increase of pressure."

STAGE OPERATION—SPST USING TWO MAGNETIC SWITCHES—"open both switch contacts on increase of pressure"; "close both switch contacts on increase of pressure"; "close one switch on increase another on decrease"; "open one switch on increase another on decrease".

CASE STYLES—three types to meet following conditions: Indoor (general purpose), Outdoor (weather resistant), and Hazardous Locations (explosion proof).

WRITE FOR BULLETIN No. 13

THE MERCOID CORPORATION
4201 Belmont Ave., Chicago 41, Ill.

Manufacturers of controls for pressure, temperature, liquid level, float, mechanical operation, etc. All equipped with hermetically sealed mercury contacts.

Spending Enough to win

Pacific Northwest oilheating Groups don't send Boys on men's Errands

by
Robert Gray

OUR INDUSTRY'S most critical test of the value of cooperative promotional campaigns for oilheating is being conducted in four states in the Northwest. They have no competition from natural gas, but they will get it some time in 1956. Pipeline promoters have been trying to move into that area for five years and now they have brought it about . . . the line is a third finished, coming up from the San Juan Basin of Colorado-New Mexico and down from the Peace River field in Alberta.

Fueloil and oilheating has been a wonderful business for the distributors in that area. Until very recently there was no spot market and all fueloil men operated under territorial franchises signed up with one of the seven major companies supplying the region. There has been very little posting of retail prices in the larger cities by the suppliers. The distributors have felt free to price their products according to their margin needs. Obviously, they couldn't overprice it for long because competition wouldn't let them, but they were free of restrictive margin problems to an extent not found elsewhere in the country.

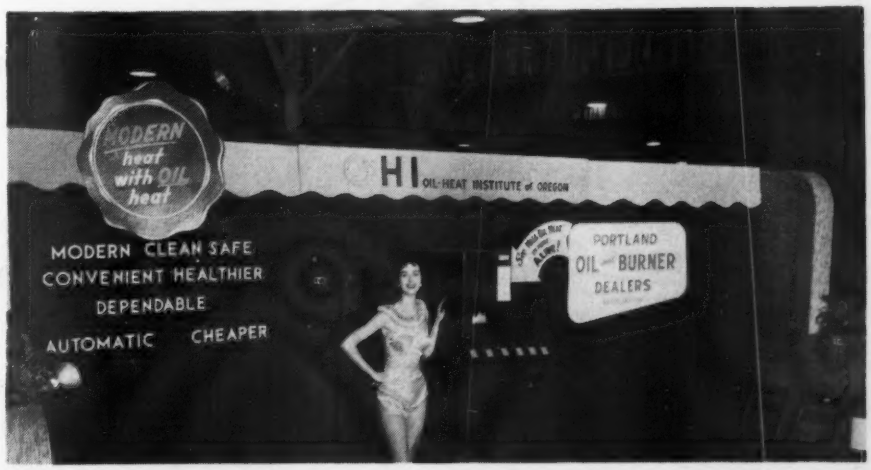
One result of the franchise system has been the development of larger companies, on the average, than you will find in other states, with an occasional city like Baltimore as an exception. There are no enormous distributors like Paragon or Sherwood or Braun Bros. of eastern cities, but yet there are quite a number selling over 10 million gallons of distillate. The average would be double that of the country as a whole.

A third phenomenon peculiar to the region is the existence of an individual leader who has a greater influence over a wider area than we have seen elsewhere in the country. This individual is M. N. "Mose" Vining and he is general manager of Diesel Oil Sales Co., Seattle. His influence has little connection with the fact that he has built the largest fueloil marketing organization west of Chicago, for there are several others more than half as large.

Rather, Mose is an extraordinary result of the "green pasture" school of economics. If he can help to build a prosperous over-all market, his company certainly will do all right. With that spirit, nearly everyone calls him about their troubles. Sitting at his desk some years ago, we couldn't help eavesdropping on his phone conversations. During the period, two fueloil distributors from other cities called him to ask advice before they signed their new contracts with their suppliers—and they were competitive suppliers. This confidence in a person has helped to get things moving when the need was indicated.

Vining is chairman of the Oilheating Industry Regional Advisory Council of the Pacific Northwest, a joint group of majors and distributors that is handling a promotional campaign. He is also chairman of the Fueloil Committee in the Marketing Division of API.

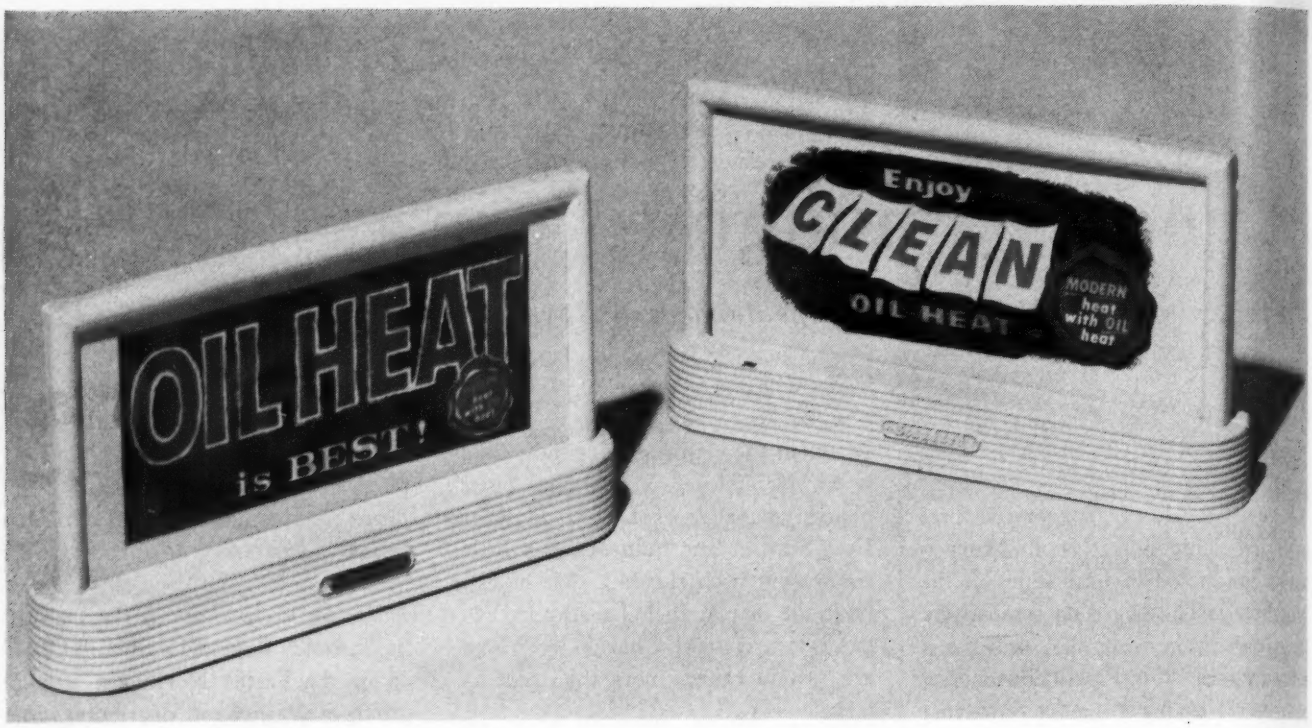
It was back in 1952 that Mose called together a group of leaders in the Seattle market and suggested an advertising program for oilheating. Natural gas was hurting in other parts of the country and would be out there some



Lady in the Flame. *While this shot is posed by a professional model, the basic idea of this booth is extraordinary. First, it's an easily portable booth, flexible in size, simple to pack and ship. It has been displayed in several of the communities around Oregon and has generated a lot of interest in oilheating.*

First, the local group runs a beauty contest in a high school to select one or more girls for "Miss Oil Heat." At the actual showings of the booth you don't see the girl, who is behind the drapery, until you look into the flame. She appears ten inches high in the midst of the flame but very much alive and ready to answer questions. The lady is "brought down to size" by a clever placing of concave reflectors and mirrors.

On the front of the heating unit are six cards, each printed with a question about heating. When the visitor pushes a button over a card the young lady tells him about the glories of oil heat.



ENJOY

CLEAN OIL HEAT

Modern oil heat is the cleanest heat there is! Central oil furnaces circulate fresh, clean air free of dust, dirt, pollen and irritating fumes. Your home is cleaner and your family healthier with clean oil heat. No wonder so many hospitals schools and modern homes use modern oil heat.

CLEANEST, CHEAPEST, MOST

Patronize the heating oil dealer who displays this seal of quality. He is an oil heat specialist.

MODERN heat

YOU'RE SURE WITH

SAFE OIL HEAT

With safe oil

u can relax, enjoy peace of mind free from t. Oil is so safe you store it right in your us fumes, leaking mains, pressure drops, failure. With modern oil heat there are panels to shatter, break or set fire to pets.

E DEPENDABLE, SAFER

YOU'RE SMART...WHEN YOU HAVE

ECONOMICAL OIL HEAT!

Here's Proof! Proof that oil heat is not only the best, but the cheapest, too.

Compare these heating costs!

Lane County

	Furnace Oil is...	Gas will cost...*	Electric heat will cost...**
EXAMPLE "A" If your monthly fuel bill for:	$ 9.00	$18.28	$20.34
EXAMPLE "B" If your monthly fuel bill for:	18.00	33.58	40.68
EXAMPLE "C" If your monthly fu	27.00	48.88	61.02

*Calculated on local gas ... Schedule #62. ... include

MODERN heat with OIL heat

ECONOM

DEPENDABLE OIL HEAT

With dependable oil heat you control your own fuel supply because it is stored safely on your own property. No danger of being cut off, broken or leaking mains, escaping fumes or pilot light failures. No pressure drops, industrial loads or brownouts. And there's no giant monopoly to dictate how much or how little fuel you can use, when you must use it, and how much you must pay.

Patronize the heating oil dealer who displays this seal. He is an oil heat specialist.

MODERN heat with OIL heat

DEPENDABLE, LOW COST, EVEN HEAT

OIL HEAT is Safest!

You can plunge a flaming torch in a pail of heating oil and it will go out! Heating oil for home heating purposes burns only when atomized and mixed with air. Compare oil with other fuels.

With safe oil heat, you can relax, enjoy complete comfort and peace of mind. No wonder oil heat leads 7 to 1 in Oregon and Washington over all other fuels combined.

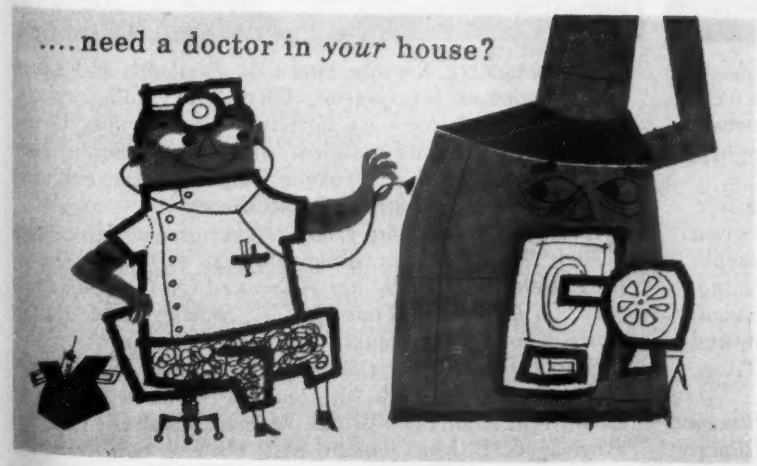
YOUR FAMILY IS WARM AND SAFE WITH CLEAN, DEPENDABLE OIL HEAT!

MODERN heat with OIL heat

Patronize the dealer who displays this seal. He is a specialist in OIL HEAT!

safe at school
safe at home
with modern
OIL HEAT
No need to worry about the safety of your children here in the Pacific Northwest where oil heated schools are the overwhelming choice of wise school officials and intelligent schoolboards. Most of our public schools are heated with the safest fuel there is, MODERN OIL HEAT.
You and your family will be warmer and safer at home, too, with dependable OIL HEAT. Oil is so safe you can store it right in your own home. You can relax, enjoy peace of mind free from worry of serious accident, because there are no dangerous, irritating fumes to annoy you. worries about pilot light failures, broken or le ing mains or hot, exposed elements and g panels that can shatter, break and burn.
Modern central oil furnaces offer you a g even heat all through your home. And b room is warmer, cleaner, safer with auto oil heat.
No other fuel for home or school offers much heating comfort (and safety) reasonable cost as dependable oil heat.
PATRONIZE THE DEALER WHO DISPLAYS THIS SEAL...HE IS AN OIL HEAT SPECIALIST
"Won't cost much to heat this house"...
"He's a good builder...always puts in oil furnaces"
"I've lived in houses with all kinds of heat and believe me, I know. Oil heat is cheaper. With oil our fuel bills are lower and we get real even heat all the time. My wife says it's cleaner and safer, too. I wouldn't buy a house that didn't have oil heat."
SAFE, DEPENDABLE, LOW-COST HEAT
MODERN heat with OIL heat
Buy your heating oil from the dealer who displays this seal of quality...He is an oil heat specialist

Examples of Advertising and Promotion in the Pacific Northwest



10 reasons why OIL HEAT is best!

Compare OIL HEAT with other fuels! Only OIL HEAT offers you all the ten features essential to complete heating satisfaction.

COMPARISON TABLE	Modern Oil Heat	Fuel B	Fuel C	Fuel D
CLEAN. No dirt, no dust, no messy cellars.	YES	No	No	Yes
SAFE. Free from danger of serious accident.	YES	Yes	No	No
AUTOMATIC. Set it and forget it. Always a comfortable temperature.	YES	No	Yes	No
CONVENIENT. No work, no worry, no tending furnace.	YES	No	Yes	Yes
PERSONAL. Supplied by your local dealer, an independent business man who is personally interested in your satisfaction.	YES	Yes	No	No
ECONOMICAL. Gives you the most heating comfort for your money.	YES	No	No	No
DEPENDABLE. Plentiful supply of fuel. Reliable deliveries.	YES	Yes	No	No
INDEPENDENT. Your choice of any brand and dealer you choose.	YES	Yes	No	No
PROTECTIVE. Storage on your own property. You control your own fuel supply.	YES	Yes	No	No
MODERN. Engineered for the most modern heating systems—warm air, steam or hot water	YES	No	Yes	No

MODERN heat with OIL heat

Only OIL HEAT fills all 10 requirements for complete heating comfort in your home. Be sure you install OIL HEAT.

Patronize the dealer who displays this seal. He is a specialist in OIL HEAT!

day. They agreed, and raised $65,000 that first year on a contribution basis of $500 a million gallons, with the suppliers giving a third of the total.

So they started, not an anti-gas campaign, nor anti-anything-else, but just "love oil heat." The next year they raised only $40,000, again in Seattle.

For the third year, 1954, they went out over the state of Washington and pulled together $114,000 and in 1955 it was $140,000. All of this had been put together on the $500 a million gallon yardstick, with the supplying companies furnishing 30-40%.

Then for the 1954-55 heating season the group also engaged a professional public relations counsel, Rod Stephens, formerly of New York, and raised another $65,000 to support his office. Not all companies financing the advertising job were willing to help also with public relations, but those who did put in another $500 a million gallons, making their total contributions 1/10¢ a gallon.

For 1956, the Washington budget, which has been approved by the Council, will be $150,000 for advertising plus $65,000 for public relations.

Oregon, through its statewide Oil Heat Institute, only got started with the 1954-55 season. It raised and spent $40,000, again on a $500 a million gallon basis, and with the suppliers making up 40%.

With that small campaign as a start, the Oregon project for the 1955-56 season is based on a total of $152,000. This was approved by the Council at its November meeting, with the suppliers furnishing 40%.

The Oil Heat Institute of Southern Idaho got approval from the Council for an initial campaign this season of $29,000. The Oil Heat Institute of Nevada has a $24,000 program for this season.

We mention the four specific regions to point up the fact that they are all tied together within the scope of the Oilheating Council. They all use the same advertising agency, Pacific National, which has offices in Portland, Seattle and Spokane. The copy used is nearly the same in all of the areas with variations for local problems.

The total target for the combined programs on the present approved basis is $420,000 for a year's promotion. The total population of the four states involved was 3,461,000 in the 1950 Census, less than half the population of New York City. Any advertising program should be geared in outlay to the size of the population to be influenced. With that in mind, the Northwest campaign, across-the-board, is investing $120,000 per million population . . . a mighty firm goal for other markets to shoot at.

One phase of the Northwest fuel-oil market not found in other areas except the South is the prevalence of space heaters and floor furnaces. The oil distributors who market furnace oils also sell "stove" oil in nearly every instance. The table makes this point:

	Washington	*Oregon*
Homes with central oilheating	250,000	104,000
with space heaters, floor furnaces	219,000	135,000
Furnace oil consumption	275 million	138 million
Stove oil consumption	206 million	118 million

Because of its higher selling price per

(*Please turn to page 141*)

Masterminds *that make up the Oilheating Regional Advisory Council of the Pacific Northwest. These photos were taken at Carmel, Calif., where the distributor members (left) met with the major company representatives (right), to see and approve the 1956 program.*

In the distributor picture are, standing, from the left, Robert G. Elmslie, budget director of the over-all program and executive secretary, OHI *of Washington; Dale Josephson, executive secretary,* OHI *of Oregon; M. N. Vining, Diesel Oil Sales Co., Seattle, chairman of the Council; Henry Auld, Automatic Heat, Inc., Eugene, Oregon, and president,* OHI *of Oregon; Joseph Maffi, Union Oil Co., Reno, Nevada, and president,* OHI *of Nevada.*

Seated, from the left, are Jerry Warrington, Rossoe Mfg. Co., Seattle, and advertising chairman for Washington; Len Gehrke, Gehrke Fuel Co., Portland, and advertising chairman for Oregon; Charles R. Holloway, Jr., Liberty Fuel & Ice Co., Portland; Fred Griffin, Griffin Fuel Co., Seattle, and president, OHI *of Washington; Leon Boyle, Boyle Fuel Co., Spokane; John Walters, executive secretary,* OHI *of Southern Idaho, Boise.*

In the major company group (right) are, standing, from the left, W. I. Martin, Union Oil Co. of Calif., Seattle; D. T. Whalen, Tide Water Associated Oil Co., San Francisco; C. L. Ainslie, Time Oil Co., Seattle; L. M. Butterworth, General Petroleum Corp., Los Angeles.

Seated from the left, are: J. T. Foster, Richfield Oil Corp., Los Angeles; R. M. Douglas, Standard Oil Co. of Calif., San Francisco; W. C. Myers, Signal Oil Co., Los Angeles; C. B. MacGlashan, Shell Oil Co., San Francisco.

Degree-Days don't always behave

A new Study on what Weather does to Fueloil Sales and Calculations

by
Albert J. McIntosh*

EDIT. NOTE—*This is a brief condensation of a paper prepared by Mr. McIntosh for the Committee on Petroleum Statistics of* API. *He called it "The Effect of Weather on the Consumption of Petroleum Fuels." It is an excellent study with several unique conclusions. You could probably get a complete copy by writing Mr. McIntosh.*

OVER THE LAST SEVERAL years we have been making improvements in our methods of calculating the effect of weather on the consumption of petroleum fuels and believe that these would be of interest to the industry.

The first thing that we have to consider is what is the weather we are concerned with and how do you determine it? We take the weather reports for a fairly large number of cities and try to work out a composite or average weather for the areas we want to work with. Of course we use the Weather Bureau's reported degree days for each of these cities.

As an example, they report the degree days every month for Portland, Me., Boston, Mass., and Providence, R. I., and we have selected some 31 of these cities which we believe give us a pretty good cross-section of the country. The next calculation is to assign weights to these cities because it is obvious that weather in a city with relatively few oilburners is not as important to us as in a place like Chicago where there are a great many oilburners.

We know the consumption of fueloils by states from the Coumbe reports of the Bureau of Mines. State figures are, in many cases, satisfactory, but sometimes they have to be split on the basis of studies we make or sometimes we assign two or three states or parts to a particular city. These assignments are made by plotting the cities on a map on which the average weather degree days are displayed.

By looking at the areas which follow the same general weather zone as far as temperatures go, we can properly assign the state or parts of states to the individual cities. For example, we find that Portland, Me. is in the same weather zone as the whole state of Maine, Vermont and New Hampshire, so we conclude that if we know the weather in Portland, Me., we know it pretty well for those three states. We also find that these three states combined consumed about 4.3% of the total of light and heavy heating oils in District #1 during the last couple of years. Therefore, as shown on TABLE I, we have assigned to the weather conditions in Portland, Me., 4.3% weighting. This is done for each of these cities in District #1, in Districts #2 and #4 combined and in District #5.

A record is then kept of the normal

TABLE I

Degree Day Weightings*

City	*Weight*	*Weights Based on Consumption in State or Part:***
DISTRICT #1		
Portland, Me.	4.3%	Maine, Vermont, New Hampshire
Boston, Mass.	15.5	Massachusetts
Providence, R. I.	2.9	Rhode Island
Hartford, Conn.	7.2	Connecticut
Albany, N. Y.	5.6	New York and 70% New Jersey divided among three cities per burner census: Albany, 20%; Buffalo, 10%; New York, 70%
Buffalo, N. Y.	2.8	
New York, N. Y.	29.2	
Philadelphia, Pa.	15.8	90% Pennsylvania, 30% New Jersey (Based
Pittsburgh, Pa.	1.2	10% Pennsylvania on market research data)
Baltimore, Md.	7.0	Delaware, Maryland
Washington, D. C.	5.5	D. C., Virginia, West Virginia
Atlanta, Ga.	3.0	Georgia, South Carolina, Alabama, Florida
Total District #1	100.0%	
DISTRICTS #2 & #4		
Cleveland, Ohio	4.4%	Assigned 53% of Ohio
Toledo, Ohio	1.4	Assigned 18% of Ohio
Cincinnati, Ohio	2.4	Assigned 29% of Ohio
Indianapolis, Ind.	9.0	Indiana
Chicago, Ill.	18.0	80% of Illinois
Detroit, Mich.	15.6	Assigned 90% of Michigan + 18% Wisconsin
Grand Rapids, Mich.	1.5	Assigned 9% of Michigan + 2% Wisconsin
Sault St. Marie, Mich.	0.2	Assigned 1% of Michigan
Milwaukee, Wisc.	7.9	80% Wisconsin
Minneapolis, Minn.	13.7	Minnesota, South Dakota
Des Moines, Iowa	6.1	Iowa
St. Louis, Mo.	8.0	50% Missouri, 20% Illinois
Kansas City, Mo.	5.3	50% Missouri, Kansas
Omaha, Neb.	2.6	Nebraska
Helena, Mont.	2.1	Montana, North Dakota
Denver, Colo.	1.8	Colorado, Wyoming
Total Districts #2 & #4	100.0%	
DISTRICT #5		
Seattle, Wash.	50.0%	Washington
Portland, Oreg.	25.0	Oregon
San Francisco, Calif.	25.0	California
Total District #5	100.0%	

*Based on sales of light and heavy heating oil—Bureau of Mines (Coumbe) report data for 1953 and 1954.

**The areas assigned to the cities were based upon isotherm weather maps, which showed areas where numbers of degree days would be nearly like those in the cities listed.

*Chief Economist, Socony Mobil Oil Co., Inc., 26 Broadway, New York.

degree days in each of these cities and also the actual degree days. We apply these weightings to get composite normal degree days for the three areas and composite actual degree days. The variations between these two accumulations give us then the weighted degree day variations which are expressed as percentages of normal. TABLE II shows the results of this comparison for the past two and a half years.

This may seem complicated, but after it is set up it is practically automatic. Every few years we change these city weightings, using the last couple of years' consumption data. For this record we use the Weather Bureau's new 30-year average normals.

The next consideration is to try to determine how much of the distillate fueloils are affected by variations in the weather. The first item that one would look at would be heating oils as reported annually in the Bureau of Mines' reports, commonly called the Coumbe's reports.

On investigation, it was found that not all the heating oils were used for space heating and that, of course, is the only part that would be affected by variations in weather. Included in reported sales is the oil used for water heating, which probably varies little due to weather conditions. From a study of a great number of water heaters we have determined that about 12½% of the total so-called heating oils was consumed by these water heaters. Another consideration we have put into the calculation recently is that new consumers, by and large, require a partial tank fill, which our studies indicate amounts to about 6 barrels per burner.

It is true, of course, that the individual tank would get low at times, but when a study is made of many consumer inventories, we find that they have quite a lot of oil on hand at all times. Once oil is put in the tanks they rarely run dry. This average inventory

TABLE II

Weighted Degree-Days, U. S. by Regions

	1953			1954*			1955	
	Old Basis Normal	Actual	% of Normal	New Basis Normal	Actual	% of Normal	Actual	% of Normal
DISTRICT #1								
January	1,043	874	83.8	1,055	1,110	105.2	1,089	103.3
February	937	781	83.4	946	733	77.5	879	92.9
March	777	697	89.6	786	763	97.1	759	96.5
1st Quarter	2,757	2,352	85.3	2,787	2,606	93.5	2,727	97.9
April	465	426	91.6	473	372	78.8	370	78.3
May	174	136	78.3	176	225	127.3	111	62.8
June	..	..	..	..	..	..	..	..
2nd Quarter	639	562	80.1	649	597	92.0	481	74.1
6 MONTHS	3,396	2,914	85.8	3,436	3,203	93.2	3,208	93.4
July, August	..	..	..	..	..	..	..	..
September	64	65	100.9	67	73	109.1	..	..
3rd Quarter	64	65	100.9	67	73	109.1	..	..
9 MONTHS	3,460	2,979	86.1	3,503	3,276	93.5	..	..
October	295	219	74.2	305	249	81.8	..	..
November	596	505	84.8	609	616	101.2	..	..
December	952	777	81.7	963	940	97.6	..	..
4th Quarter	1,843	1,501	81.5	1,877	1,805	96.2	..	..
YEAR	5,303	4,480	84.5	5,380	5,081	94.5	..	..
DISTRICTS #2 & #4								
January	1,241	1,113	89.7	1,249	1,243	99.5	1,241	99.4
February	1,050	936	89.1	1,056	772	73.2	1,063	100.7
March	868	794	91.5	874	939	107.5	897	102.6
1st Quarter	3,159	2,843	90.0	3,179	2,954	93.0	3,201	100.7
April	484	574	118.5	489	381	77.8	272	55.5
May	222	189	85.4	225	291	129.1	124	55.2
June	..	..	..	..	..	..	..	..
2nd Quarter	706	763	108.1	714	672	94.0	396	55.4
6 MONTHS	3,865	606	93.3	3,893	3,626	93.1	3,597	92.4
July, August	..	..	..	..	..	..	..	..
September	100	79	79.4	103	68	66.3	..	..
3rd Quarter	100	79	79.4	103	68	66.3	..	..
9 MONTHS	3,965	3,685	93.0	3,996	3,694	92.5	..	..
October	355	239	67.4	361	372	103.0	..	..
November	759	599	78.9	767	671	87.5	..	..
December	1,132	1,021	90.2	1,140	1,060	93.0	..	..
4th Quarter	2,246	1,859	83.8	2,268	2,103	92.7	..	..
YEAR	6,211	5,544	89.3	6,264	5,797	92.6	..	..
DISTRICT #5								
January	645	448	69.5	..	635	98.4	630	97.6
February	494	459	92.9	..	452	91.5	530	107.5
March	453	484	106.9	..	527	116.5	550	121.4
1st Quarter	1,592	1,391	87.4	..	1,614	101.4	1,710	107.5
April	339	398	117.3	..	366	108.0	463	136.6
May	237	271	114.6	..	244	103.2	312	131.9
June	..	..	..	..	..	..	..	..
2nd Quarter	576	669	116.2	..	610	106.0	775	134.7
6 MONTHS	2,168	2,060	95.1	..	2,224	102.6	2,485	114.7
July, August	..	..	..	..	..	..	..	..
September	114	89	77.4	..	118	102.9	..	..
3rd Quarter	114	89	77.4	..	118	102.9	..	..
9 MONTHS	2,282	2,149	94.2	..	2,342	102.6	..	..
October	238	207	86.9	..	242	101.4	..	..
November	418	362	86.7	..	339	81.1	..	..
December	575	489	85.2	..	582	101.3	..	..
4th Quarter	1,231	1,058	86.0	..	1,163	94.5	..	..
YEAR	3,513	3,207	91.3	..	3,505	99.8	..	..
TOTAL UNITED STATES								
January	1,043	880	84.4	1,052	1,079	102.6	1,071	101.8
February	907	778	85.8	915	704	77.0	882	96.5
March	755	687	90.9	762	775	101.6	763	100.0
1st Quarter	2,705	2,345	86.7	2,729	2,558	93.7	2,716	99.5
April	447	456	101.8	454	365	80.6	349	76.8
May	190	163	86.2	192	240	124.6	134	70.0
June	..	..	..	..	..	..	..	..
2nd Quarter	637	619	97.2	646	605	93.7	483	74.8
6 MONTHS	3,342	2,964	88.7	3,375	3,163	93.7	3,199	94.8
July, August	..	..	..	..	..	..	..	..
September	78	69	88.9	80	75	93.3	..	..
3rd Quarter	78	69	88.9	80	75	93.3	..	..
9 MONTHS	3,420	3,033	88.7	3,455	3,238	93.7	..	..
October	299	220	73.4	308	279	90.5	..	..
November	615	510	83.1	625	594	95.1	..	..
December	949	808	85.1	959	924	96.4	..	..
4th Quarter	1,863	1,538	82.6	1,892	1,797	95.0	..	..
YEAR	5,283	4,571	86.5	5,347	5,035	94.2	..	..

*Revised, due to two cities (Philadelphia and Indianapolis) formerly reporting Degree Days from City Stations, that were changed to Airport Status. Year—1954 figures are comparable to 1955 Actual Data. In 1953, the old Normals and Actuals are comparable.

is a working stock and really is never consumed.

Therefore, out of the annual deliveries reported as heating oils, we have to deduct an item for the average inventory for the new burners being installed. This is also true for the increase in the capacity or tankage of the secondary inventory locations. These deliveries appear in our statistics as consumption but, in fact, are not consumed at all. We have made estimates of these inventories required from the increased shell capacity shown in the reports the industry has had available over the last several years. Our studies have shown that the additional working inventories will be about 60% of the new shell capacity.

These data are all shown on TABLE III for a couple of years, as an example. It was found for the years 1951 and 1952 that the United States average of these three items which would have to be deducted from the total heating oils was about 15%. We have assumed for future use that the remaining 85% of the heating oils reported were consumed for space heating and would, therefore, be affected by variations in weather.

Looking at other classifications of consumption shown on the Coumbe's report we have made studies of railroads, gas utilities, oil company usages, #1 range oil consumption and the consumption reported for smelters, mines and manufacturing. Our Railroad Department made an investigation of the consumption of oil by railroads for train heating and it appears that about 6.7% of the total distillate oils they use could be considered as space heating consumption.

In analyzing the deliveries to the gas utilities of light gas oils, we believe that about 28% of those deliveries would be affected by the weather. This was determined by noting the seasonal variations in deliveries to these accounts. This would represent the gas sold by these companies for space heating. For past years, oil company use was arbitrarily estimated to be half affected by weather variations.

In the case of #1 range oil, these quantities obviously are used for both cooking and space heating. Again from an investigation we made of probable usages by these consumers, we have split these data half and half. The consumption of distillates by smelters, mines and manufacturing is very often considered as oil used in the manufacturing process, but we find, in our own company's experience, that there is considerable seasonal variation in these deliveries which can only be accounted for, in our marketers' opinion, by the fact that a good many of these companies use this oil also for space heating and the variations in these deliveries over several years have given us a figure of 24% representing the use as space heating oil.

We apply all of these percentages to the totals shown in the Coumbe report, and add the results together and come up with one total for all of these usages. This total then added to 85% of the heating oils gives the total quantity of oil affected by weather variations on an annual basis.

We now have a much better method of distributing the annual quantities of home heating oils to the individual months than we used heretofore. In this method we determine the normal consumption per month based upon the normal number of degree days and the numbers of burners that are required to be supplied during the months. Also we found, from studying the operating experience of a large number of burners (representing over 1,200 burner-months), that the consumption per degree day varies with the number of degree days actually involved.

During the months represented by a small number of degree days, when the consumption is low, we found that the consumption per degree day is substantially greater than in the months when we normally have real cold weather and, therefore, a large number of degree days. During the winter months the burners apparently are more efficient and you can get the necessary heat with less oil per degree day than you can in the off-season months of say, September, October, November and April and May.

We made these studies in various sections of the country and with various kinds of heating plants, and in almost every study and area it was clearly indicated that if you plotted the consumption per degree day beginning with the month of September and ending with May, consumption per degree day formed a very clear and regular U-shape.

The studies were so uniform that we could not but feel that we had to

TABLE III

Estimated Breakdown of Bureau of Mines' (Coumbe) "Heating" Use for Distillates

(Thousands of Barrels Daily)

USES	1951 Dist. #1	1951 Dist. #2 & #4	1951 Dist. #5	1951 U. S. Excl. Dist. #3	1952 Dist. #1	1952 Dist. #2 & #4	1952 Dist. #5	1952 U. S. Excl. Dist. #3
Connected Water Heaters	58	6	2	66	69	8	2	79
Non-Connected Water Heaters	12	3	..	15	11	4	..	15
Total Water Heating	70	9	2	81	80	12	2	94
Working Inventory for:								
New Secondary (Bulk Plant) Tanks	3	2	..	5	2	1	..	3
New Tanks Installed for Consumers	6	3	..	9	7	3	..	10
Miscellaneous, Stove Oil	..	..	2	2	..	..	3	3
Grand Total—Other Than Space Heating	79	14	4	97	89	16	5	110
Bureau of Mines (Coumbe) Total	407	207	61	675	427	222	63	712
Space Heating (Difference)	328	193	57	578	338	206	58	602
Space Heat % Coumbe	81%	93%	93%	86%	79%	93%	92%	85%

TABLE IV

Effect of Weather on Consumption of Petroleum in the U. S.*

(Thousands of Barrels Daily)

	1949	1950	1951	1952	1953	1954
DISTRICT #1						
Distillates ..	+ 49	+ 18	+ 41	+ 43	+ 61	+ 23
Residuals ..	+ 18	+ 7	+ 13	+ 13	+ 21	+ 6
Kerosene ...	+ 14	+ 5	+ 11	+ 10	+ 14	+ 6
L.P.G.	+ 7	+ 2	+ 5	+ 5	+ 7	+ 3
Total	+ 88	+ 32	+ 70	+ 71	+103	+ 38
DIST. #2 & #4						
Distillates ..	+ 9	— 7	— 10	+ 15	+ 34	+ 21
Residuals ..	+ 3	— 2	— 2	+ 4	+ 8	+ 4
Kerosene ...	+ 5	— 3	— 4	+ 6	+ 9	+ 4
L.P.G.	+ 3	— 1	— 2	+ 3	+ 5	+ 3
Total	+ 20	— 13	— 18	+ 28	+ 56	+ 32
DISTRICT #5						
Distillates ..	— 2	— 2	..	+ 2	+ 4	..
Residuals ..	— 1	— 1	..	+ 1	+ 1	..
Kerosene ...	..	..	..	..	..	..
L.P.G.	..	..	..	..	..	..
Total	— 3	— 3	..	+ 3	+ 5	..
TOTAL U. S.						
Distillates ..	+ 56	+ 9	+ 31	+ 60	+ 99	+ 44
Residuals ..	+ 20	+ 4	+ 11	+ 18	+ 30	+ 10
Kerosene ...	+ 19	+ 2	+ 7	+ 16	+ 23	+ 10
L.P.G.	+ 10	+ 1	+ 3	+ 8	+ 12	+ 6
Total	+105	+ 16	+ 52	+102	+164	+ 70

When actual consumption was below normal because of warmer than normal weather, the unconsumed quantity is shown as + in above table, which means add those quantities to reported consumption to find what the consumption would have been if weather had been normal. For items marked —, do the reverse, as they indicate adjustments for colder than normal weather.

*Corrections are based upon Weather Bureau old normals for the years 1949-1952 and Weather Bureau new normals for 1953 and 1954.

TABLE V

Consumption of Fueloils Affected by Weather

(Combined Portions of Various End Uses)
(Thousands of Barrels Annually)

	1949	1950	1951	1952	1953	1954
DISTRICT #1						
Kerosene	34,602	38,580	40,077	41,504	36,162	40,067
Distillates	99,791	116,581	132,130	136,884	136,548	166,576
Residuals	38,143	44,713	42,340	43,920	38,080	41,245
Total	172,536	199,874	214,547	222,308	210,790	247,888
DIST. #2 & 4						
Kerosene	15,695	20,112	21,645	20,862	19,988	20,744
Distillates	55,078	66,503	76,650	81,252	92,055	107,110
Residuals	12,118	15,293	17,155	17,202	16,632	16,790
Total	82,891	101,908	115,450	119,316	128,675	144,644
DISTRICT #5						
Kerosene	2,007	1,898	1,642	1,062	950	791
Distillates	17,885	18,761	20,075	20,496	22,243	24,621
Residuals	8,760	9,855	9,490	9,882	8,067	8,030
Total	28,652	30,514	31,207	31,440	31,260	33,442
TOTAL U. S.						
Kerosene	52,304	60,590	63,364	63,428	57,100	61,602
Distillates	172,754	201,845	228,855	238,632	250,846	298,307
Residuals	59,021	69,861	68,985	71,004	62,779	66,065
Total	284,079	332,296	361,204	373,064	370,725	425,974

NOTE: Consumption of similar kinds in District #3 excluded as not subject to weather adjustment.

use this new method for weather adjusting home heating demand. Previously we had simply said that every degree day required the same amount of consumption, but under our new method this varies according to the normal or actual degree days in the months.

As an example, for a degree day month that has only 30 degree days we find the consumption in District #1 as 0.288 barrels. We have also noted that a 300 degree day month does not call for ten times the consumption, but rather 2.387 barrels. A month with 600 degree days, instead of consuming twice the 300 month, or 4.77 barrels, actually requires only 4.103 barrels per burner. This goes to illustrate the U-shape of these consumptions per degree day as you get into the months when the degree days are much heavier.

Distillate fueloils consumed for space heating, in other than home heating use, also should be adjusted for weather. The way we do it is to estimate the normal consumptions for each month and multiply these by the per cent of normal degree days that actually prevailed in each month in order to get actual consumption. The differences between normal and actual consumption are the weather adjustments.

So far we have talked about distillate fueloils because that is the product most affected by changes in weather. But we know that some of the kerosene, residual fueloil and liquefied petroleum gases are also affected by changes in weather. We do not have sufficient data on the consump-

(*Please turn to page* 140)

TABLE VI

Degree Days Annually

	1949	1950	1951	1952	1953	1954
DISTRICT #1	4,794	5,167	4,892	4,909	4,480	5,081
DT. #2 & #4	5,849	6,519	6,574	5,909	5,544	5,797
DISTRICT #5	3,657	3,827	3,662	3,569	3,207	3,505

Consumption of Fueloils per Degree Day

(Thousands Barrels)

	1949	1950	1951	1952	1953	1954
DISTRICT #1						
Kerosene	7.2	7.4	8.2	8.5	8.1	7.9
Distillates	20.8	22.6	27.0	27.9	30.5	32.8
Residuals	8.0	8.7	8.7	8.9	8.5	8.1
Total	36.0	38.7	43.9	45.3	47.1	48.8
DIST. #2 & #4						
Kerosene	2.7	3.1	3.3	3.5	3.6	3.6
Distillates	9.4	10.2	11.7	13.8	16.6	18.5
Residuals	2.1	2.4	2.6	2.9	3.0	2.9
Total	14.2	15.7	17.6	20.2	23.2	25.0
DISTRICT #5						
Kerosene	0.5	0.5	0.5	0.3	0.3	0.2
Distillates	4.9	4.9	5.5	5.7	6.6	7.0
Residuals	2.4	2.6	2.6	2.8	2.5	2.3
Total	7.8	8.0	8.6	8.8	9.4	9.5
TOTAL U. S.						
Kerosene	10.4	11.0	12.0	12.3	12.0	11.7
Distillates	35.1	37.7	44.2	47.4	53.7	58.3
Residuals	12.5	13.7	13.9	14.6	14.0	13.3
Total	58.0	62.4	70.1	74.3	79.7	83.3
L.P.G. (Est.)	5.2	6.5	7.7	8.3	9.2	9.3
GRAND TOTAL	63.2	68.9	77.8	82.6	88.9	92.6

Includes portions of heating oils, railroads, gas oils, company use and range oils which are consumed for space heating.

Oilheating Roundup...Second Part

In which a Panel of key oilheating Men discuss significant Activities of 1955

The first portion of this discussion was published in the January issue and the concluding installment is due for March. The individuals taking part were the two Carsons from Baltimore, Tom, of Sherwood Bros., and Jim, of Fluid Heat Div., then George Clement, CFM Terminals, Philadelphia, Tom Scott, Buckley & Scott, Watertown, Mass., H. M. Spade, E. Robison, Inc., Hartsdale, N. Y., and from the magazine Bert Dunphy, managing editor, and Robert Gray, editor.

LAST MONTH—the discourse ended midway in a discussion of how the industry will be able to hold up its present high volume of new installations in view of total automatic heating sales of two million in 1955. The talk was running toward greater replacement potentials.

Jim Carson: We were kicking this around the other day in the office, particularly the published figure that the average replacement age for oilheating installations has been 17 years. Do we get a second crack at the customer?

When we spoke of the much faster turnover in automobiles and refrigerators, even television, one thing that came to light was the slow progress of engineering in the heating industry.

Most oilheating equipment being sold today is built around patents issued back in the 30's. Why should the public put money into automatic heating when the plant they have is doing a fair job and there hasn't been enough change to convince them that they could do better?

Gray: Actually, people are pretty easy to please with their heating. We haven't stirred them up to be displeased. Johnny Schultz, our technical editor, one time put a recording thermometer in our house for a week. He shrieked when he saw the record—a variation of four to five degrees between cycles. We hadn't noticed anything, thought we were comfortable, and I think we are typical of a lot of people. Complete heating comfort is certainly one of their lesser concerns until we can stir them up in some way.

Scott: If we can make oil heat dramatically attractive, and I think Jim has put an important finger on the manufacturer who has done mighty little to make it that way . . . most oilburners, including ours, look like they had been designed by a bricklayer. Let's bring in some of the fancier designers and get some of this drama that Jim was putting his finger on.

Clement: We were talking about holding up to a million installations of oil and gas outside of the new home market. As far as Philadelphia is concerned, and it is pretty much like Boston, close to fifty per cent of the equipment should be replaced.

Gray: Do you mean that making all of these replacements would really benefit the owners?

Clement: Yes. There has been a lot of real junk installed for both oil and gas heating. We have tried several times with campaigns for replacement business, honestly believing that the home owner would benefit by it . . . it is a tough thing to put across.

In another way of thinking, this partially defeats the new plan of pushing annual service contracts that include parts. That destroys some of the argument for new equipment because the old plant can't cost the owner anything beyond his service contract.

I don't think you can expect too much from equipment manufacturers in extensive research . . . it's too small an industry, not in total but too many of the manufacturers are small.

I do think there is room for enormous basic improvement in oilburning but I don't look for any one manufacturer to do it.

Gray: There is a little basic research going on today through OHI's Technical Committee, but on no such scale as we might have.

Jim Carson: There is one equipment field that the oil industry has made a stab at but certainly never gone after. That's water heaters. The number sold for other fuels is fantastic. Every oil man should be interested because of the summer fuel demand. And

"Raise the price *of the equipment," says Scott at left, while burner manufacturer Jim Carson isn't so sure.*

yet we have made little attempt to make a good, reasonably priced heater.

Gray: But it has to use No. 2 oil.

Spade: We have been getting some good direct mail pieces on this very recently. This situation may correct itself.

Jim Carson: We have been approached by a concern that is making the basic unit only for other manufacturers. The price seems fairly good. You can come out with a 30-gallon heater with a very good recovery rate for a cost of about $175 to the dealer.

"Gotta think *that one over."—Spade*

A good quality gas fired water heater with the same recovery rate will cost about that much.

Scott: An electric water heater will cost considerably more on a per hour basis:

Spade: An electric water heater has one terrific disadvantage. You have to raise the storage tank capacity to the point where they almost price themselves out of the market. That's because of the low recovery rate.

To my knowledge there are now three new oilfired water heaters on the market that a dealer can buy around $165. They are either copper lined or stone lined with a recovery rate of 90 gallons an hour in the 30 gallon size. That is at least as good as an 80 gallon electric water heater which has a recovery rate of less than one tankful an hour.

Gray: The big need for the moderate priced water heater for No. 2 oil is of course in homes with warm air heating. In far too many of these homes oil does only the heating job and they use gas or electric water heaters. The oil men lose about 250 gallons a year of potential business.

Spade: Well the fact that we have at long last some reasonably priced oilfired water heaters has helped us to a very measurable degree to break into new home building.

If I can go back to our talk about engineering development I have another angle. If the oilheating equipment manufacturers will hurry up and develop their oilfired airconditioning unit which is supposed to be on three or four drafting boards we can get in on the band wagon and tie this into oil heat.

Gray: We'll cover cooling a little later. The next item I catch in looking through the magazine brings the question of how we can attract more good salesmen into oilheating.

Scott: Raise the price of the equipment twenty-five per cent. Provide benefits that will justify the increase in price.

Spade: I think there is a better solution than that. Make the profitable end of the business provide support. Nobody can make any real money selling and servicing oilburners unless they are in the complete oilheating business. Being frank about it, you do make money in the fuel-oil end of it.

Our margin on heating oil in Westchester County lets us in effect subsidize the salesman's cost in favor of the heating equipment. In other words a good man with us might earn $8,000, but only about half of it should be considered oil commissions and the other half is a subsidy that lets him sell equipment at a lesser commission rate. He would need a higher rate if he had to make a living entirely out of equipment sales.

Gray: Do you believe that if we generally raised equipment prices five per cent and gave all of it to the salesman that you could attract more good men?

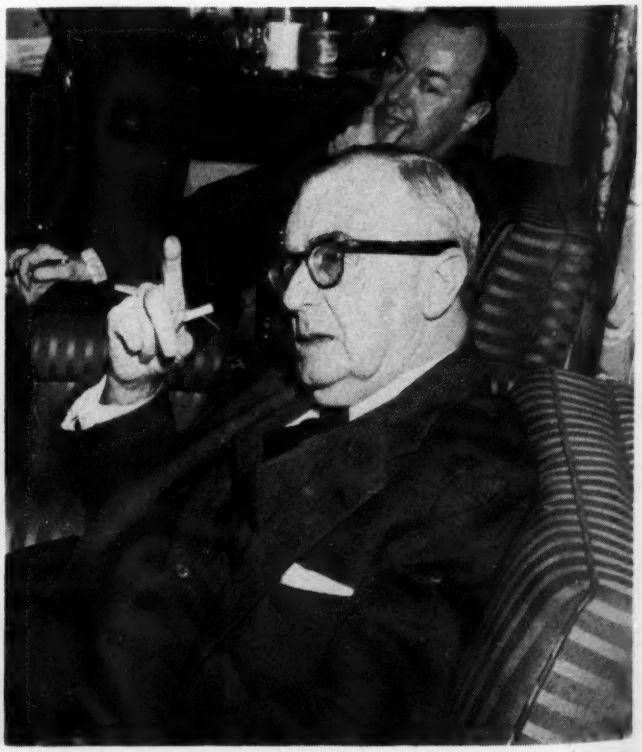
Clement: Everybody would have to do it.

Gray: I don't agree. Probably the biggest selling job by a single dealer in high quality equipment is being done in Boston. His cheapest conversion burner installation is over $500, yet I believe he sells more burners than any other dealer in the market. I would bet that the salesmen are a particularly good type, and he can afford good ones.

Jim Carson: But he has something different to sell.

Gray: That makes good sense. We have shaken down to pretty much of a commodity market and it is going to be hard to pull ourselves up by our bootstraps unless we can turn to more of a specialty product.

Spade: As long as you are trying to do it the hard way by selling oilburn-



. . . "The idea *of airconditioning the year 'round seems typically American," thinks Tom Carson.*

ers you are actually just selling bolts and nuts when what you want to do is to sell automatic heating, 70 degrees of heat. Your specialty salesman should concentrate on selling 70 degrees, through the medium of heating oil.

The gas company doesn't sell bolts and nuts. Their burner is usually brushed off with the absolute minimum of reference.

Jim Carson: But that is really a glamorous brush-off. The accent is on simplicity. They are constantly bringing out the point of only one moving part, or no moving parts.

Gray: Equipment is still pretty important in this picture. I can't very well agree with the other point of view.

Spade: That's the reason we stopped selling premium priced burners.

Scott: I don't think you can sell oilburners unless you have a premium priced burner. We only recently went back to selling them because we tried what you are talking about five years ago. I said idealistically that we are interested in building oil load . . . that is the profit line and the hell with equipment sales.

We went out with a beautiful service contract called "Perpetual Comfort Guarantee," which one customer characterized as "cushions for coffins."

We sold a lot of oil contracts, selling 70 degrees of heat. And you don't have to buy a new oilburner to get it; we will make your old equipment do the job.

Our equipment division withered and pretty soon we found that the guy who will change oil suppliers to get your $29.50 cushion for coffins will change almost as quickly to buy somebody else's. The only way you can build a real sound fueloil customer who is going to stay with you is to sell him about $800 worth of equipment.

Then we found that we were not doing a favor for a large per cent of these people by keeping their old stuff running.

Two or three of our older salesmen who just couldn't be converted to my "fueloil only" theory went ahead selling oil boiler units.

Then we found by a careful check that we weren't losing the oil business on any of these equipment sales. We were losing the Johnny-come-lately oil customers rather freely.

So we have gone back to an equipment economy on the philosophy that it is the best way to convert gas thinking to oil. You have got to have a good sound equipment division out there doing a specialty job. And while you are out there the best way to protect your customers is to have a nice thousand dollar investment in a fine piece of oilheating equipment. We are only just beginning to sound the market, just touching the surface. Two years ago we sold 150 installations, this year over 300, and those accounts are staying with us.

Spade: I don't disagree with anything you said. We are selling 90% units. Many of the early low-grade conversion installations have been cleaned out. My whole contention is to first make sure that the account is completely satisfied with oilheating.

Gray: Let me get an answer to this hypothetical case. If a product is selling for $500 and the salesman is getting 10%, could you raise the price to $525 and give the salesman $75 instead of the old $50 and by doing that attract better salesmen and get more sales?

Spade: Sure, you probably could.

Scott: Yes.

Jim Carson: You always get better men for more money.

Gray: Salesmen's incomes in oilheating average about $6,000 a year and two-thirds of those men sell both burners and fueloil. Of course, the average individual in the country earns considerably less than that, but salesmen that go out and do a job in other industries earn more.

Tom Carson: I think it is axiomatic that if you give a greater reward you certainly should get a better type of man and in turn a better result.

"There has been *a lot of real junk installed by both gas and oil," opines Clement.*

Gray: Would you say that where the buyer is required to pay $525 instead of $500 we are actually doing the general public a favor because a good salesman will bring more families into the benefits of finer living with oil heat? And by increasing the turnover of the product, does the benefit from the higher price spread to a lot of people indirectly?

Scott: That sounds like the second five-year plan to me.

Gray: I think we understand your viewpoints on this. Now let's get some impressions on cooling equipment from the oilheating dealers' position.

So far, central cooling installations in homes have hardly exceeded a hundred thousand in a year. That's a twentieth of the new automatic heating in-

stallations. We've been a little disappointed, but still there's a very high interest in cooling among oilheating men.

How does the modern oilheating man fit the cooling picture?

Spade: This is not a direct answer to your question but I would like to see people in the oilheating business forget about liquid fertilizer and put the same effort into promoting airconditioning.

Scott: Why is cooling so important?

Spade: Airconditioning will separate the men from the boys faster than anything I have ever been exposed to, when it comes to engineering and installations.

Scott: We introduced cooling compressors into Boston in 1932 and we are still trying to correct the engineering in Ruby Foo's Den in Chinatown. We had one competitor in Boston that bothered us. About four o'clock each afternoon an east wind comes up and does a fine cooling job.

Gray: There is some influence there. The big residential cooling market must be in the warmer states.

Spade: Well, I'm all for it.

Clement: Some new homes are being built in nice parts of the Philadelphia suburbs—good sized homes, $50-$55,-000. When we talked to prominent real estate agents out there and asked them about airconditioning, they said that if you go to forced warm air heating and make the ducts large enough for cooling that seems to satisfy the people.

Gray: Tom, what is happening in Baltimore?

Tom Carson: Very little in this direction. I have the general feeling that the idea of airconditioning the year 'round seems typically American. We might say that it is going to come.

We have just about 21 days a year when the temperature becomes what you might call insufferable. For an outlay that runs $1,200 for an attachment to a warm air job, for 21 days, I think that is considerable.

Clement: I don't think that is the proper explanation, Tom. It is true that for 21 days a year you are very hot in Baltimore. But there are another 50 days not quite as uncomfortable. If somebody had a central airconditioning plant they would use it those other 50 days too.

Tom Carson: I am just figuring what you might call the impelling need.

Spade: You also don't want to lose sight of the fact that something new has been added—the houses today have bigger areas of glass, picture windows, ranch-style homes where they put bedroom windows high on the wall. In other words, a modern house begins to look like it has to have airconditioning. You don't have the ventilation of the old homes.

Gray: Do you think that stronger promotion of airconditioning might make people more conscious of their heating?

Spade: We have taken three gas burners out and put oilburners in combination heating and cooling units that were adaptable to either fuel. These people installed airconditioning in their gas fired combination units and they couldn't get service on the airconditioning.

So we service the airconditioning and make them happy. Eventually you get across the idea that if they want good service on the cooling and incidentally just as good heating service they had better switch to oil. So far three families have done it. Our industry will get a lot more business that way if we learn airconditioning thoroughly.

Gray: To tie this down, do you think that our oilheating crowd should put considerable effort and energy into cooling?

Scott: I'm afraid of taking the same man off the job of selling heating equipment, which is a 12-month proposition with us.

Clement: I think it is too soon.

Spade: But don't forget, airconditioning helps you flatten out those humps.

Clement: Not at the volume being sold today.

Scott: I don't want to flatten the humps. I want to get those peaks as sharp and high as I can. The work that the men are doing in the flat is what makes the peaks hit the top.

"The whole point here *is whether there's cohesion in the gas industry that doesn't exist with us"—is probably what Spade was saying as Tom Scott thinks it over.*

Spade: The difference in our philosophy is that we want to sell 70 degrees the year around; you want to sell nuts and bolts.

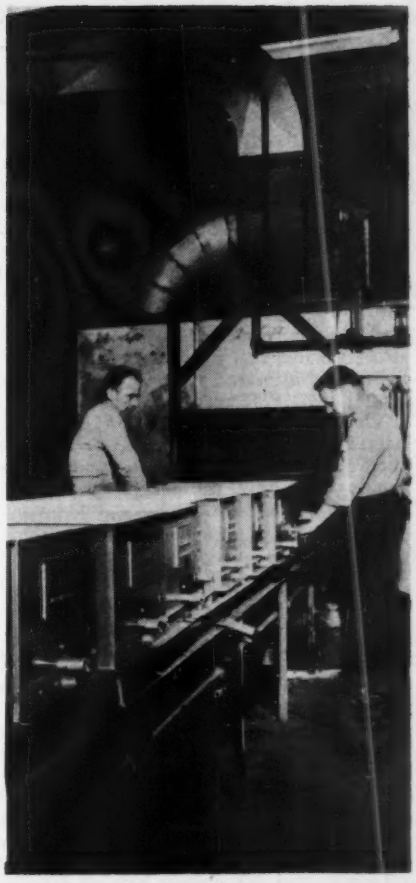
Scott: I want to sell fueloil and make a profit, if you'll excuse that dirty word.

Clement: How many cooling jobs have you installed?

Spade: Sixty-eight in two years, with just under 50 of those in 1955. We are selling airconditioning to people who are driving two-year-old Chevrolets and Fords. We are also selling it to people who wouldn't be caught dead in last year's Cadillac. It is not a limited market. You can sell to both kinds.

EDITOR'S NOTE—*We'll cut in here, with qutie a bit more coming in March.*

Airconditioning to be standard Equipment in 702 Levitt Homes



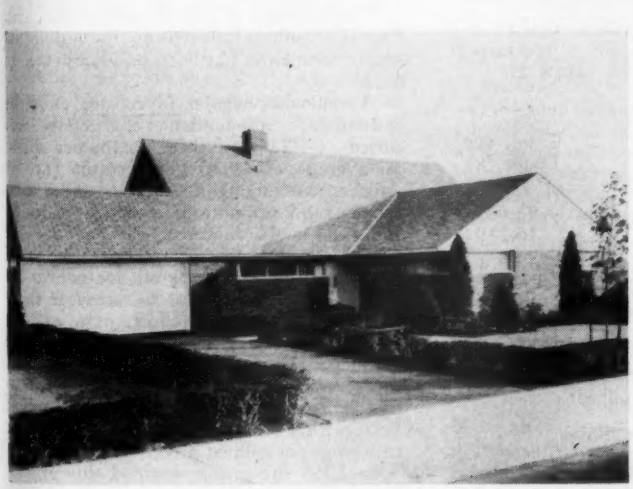
CENTRAL AIRCONDITIONING made a dent in the volume produced home market when William J. Levitt recently agreed to install cooling equipment in 702 homes being built by Levitt & Sons, Inc. Carrier Corp., Syracuse, N. Y., got the contract described as the largest residential airconditioning contract ever signed.

The houses to be airconditioned are located at Levittown, Pa., and will sell for $18,990. For this amount of money the purchaser gets the Country Clubber shown below. It is a three bedroom, two bath home and has an upstairs that can be finished to provide two more rooms and a bath.

Oilfired radiant heat provides winter comfort. And now summer comfort will be furnished by an air-cooled refrigerating unit connected by copper tubing to an airconditioning unit providing nearly four tons of capacity.

The unit will have sufficient capacity to handle the first floor living area of 1,550 sq. ft., plus the expansion second floor which adds another 1,150. It will be placed in the far corner of the attached double garage with a grille in the back wall to admit outside air for condensing and a short length of duct to discharge air through the wall.

Main supply and return ducts extend along the ceiling rafters under the slope of the roof. In the kitchen, dining room and living room special ceiling diffusers will be installed to provide circulation of conditioned air.



That's *William J. Levitt, (right) the nation's largest home builder. He's shown with Cloud Wampler, Carrier president, at the company's Syracuse plant.*

Levitt said, "It doesn't make any sense to heat a house in the winter and not cool it in the summer. The only problem is to bring down the cost. Someday we hope to be able to install central airconditioning equipment in every home we produce."

Pictured *up right is Carrier's production line in process of creating the Weathermakers that will cool the community. Statisticians playing with the cooling capacity provided by 702 units say that they could cool four buildings the size of New York's Lever House.*

OILHEATING MARKET REPORTS*

Springfield, Mass.

THE OILHEATING MARKET considered in this study consists of the Springfield-Holyoke Standard Metropolitan Area of the 1950 Census, with the exception of the portion of Hartford County, Conn., included in the Census.

As of 1950, the Census reports a total of 109,411 occupied dwelling units in the area. Of these, 70,173, or 64%, consisted of one-and-two-family-homes. By January 1, 1955, it is estimated that dwellings in this classification had increased by 17%, or 12,404, to a total of 82,577 units.

Out of a 1950 total of 81,555 centrally-heated dwellings of all types, we estimate that in the centrally-heated one-and-two-family units only, the fuel usage was approximately as follows:

Coal	25,072
Gas	4,168
Oil	21,243
Other	1,818
Total	52,301

To the 1950 figure of 21,243 oilburner installations in residences should be added an estimated 1,476 additional installations in the small commercial classification, where a domestic-type burner utilizing No. 2 fuel-oil is employed. This gives a total of distillate oilburners in use at that time of 22,719.

In the five-year period since 1950, projected upon the basis of permits issued for oilburner and gas central heating installations in the city of Springfield, net usage of these two fuels in the entire area increased as shown in the following table. (The figures for oilburner installations take into account replacements by new oilburners and losses to gas.)

	Total to 1950	*1950*	*1951*	*1952*	*1953*	*1954*	*Total, net Usage, as of 1/1/55*
Oil	22,719	4,995	3,597	4,325	3,778	3,271	42,685
Gas	4,168	326	619	845	2,169	2,112	10,239

Fuel Costs

Our estimate places at about 11,760 the total number of homes heated by coal at the start of 1955—a loss of 13,312, or 53%, since 1950.

Anthracite, for hand-firing, costs $26.45. At 13,200 Btu per pound this is the equivalent of 10.0¢ per therm.

Natural gas, of 1,000 to 1,030 Btu content per cu. ft., is furnished by four utilities. The areas served by each utility, their lowest rate per Mcf (including any discounts) and a comparison, on a Btu basis, of the cost for gas for house-heating in each area with the cost of oilheat, are shown in TABLE 1.

At the expected Winter rate of 14.7¢ per gallon, No. 2 fueloil, per therm, will cost 10.5¢.

Fueloil Distribution

Our estimate of the total retail volume of No. 2 fueloil handled in this market is 71,286,000 gallons, or slightly under 1.7 million barrels.

The major companies handle 73% of the total quantity of No. 2 fueloil brought into the market in their typical wholesale-supply role; the balance of 27% passes through the hands of independent wholesale suppliers.

A small share (8%) of the retail gallonage is sold on a direct basis by these independent wholesale distributors; another 13% is distributed by the major oil companies. By far the greatest share (79%) of the tank wagon business is handled, however, by the independent marketers.

Nearly two-thirds of the independent marketers maintain their own bulk facilities. The rest (37%) of these companies depend upon other supply sources, purchasing 23% of the market gallonage "under the fill."

Most of the retail oil delivery is made on an automatic basis . . . the tanks of 73% of all customers are kept filled "automatically." A high ratio also of 61% of users' storage tanks are equipped with VENT-ALARM fill signals.

The adoption of budgeted payments by fueloil customers is no more extensive here than in most other eastern markets, with this practice followed by only about 17% of the oilheating accounts.

Market Concentration

Most of the 127 independent fueloil marketers operating in this area (82%) are small in size, with not more than one or two trucks delivering No. 2 fueloil. These smaller operators, however, handle less than two-thirds of the total retail gallonage, with the balance (38%) concentrated among 23 companies who own from three to seven trucks each.

A tabulation of the fueloil dealers and their size of operation on a trucks-per-company basis appears in TABLE 2.

Two out of three fuelol marketers (66%) sell oilburners. This concern with the sale of oilheating equipment, also general in the eastern oilheating markets, is an important underlying strength for oilheat.

Oilheating equipment Sales

This 66% of the fueloil marketers who sell oilburning equipment accounted for 70% of all 1954 oilburners installed in the territory, according to the oil men who assisted in this study. The straight plumbing and heating companies sold an additional 19%, and the balance of 11% of all equipment sold was installed by specialized burner companies.

Oilburner Service

The responsibility of the fueloil companies in providing service for oilheating equipment is currently doing just a bit better than keeping pace with their share of equipment installations. These companies perform 71% of total oilheating and burner service rendered in the market.

It is estimated that 30% of all the oilheating users rely upon oilburner service rendered under one of the several types of service contract offered. Add to this another 49% of oilburners that receive an annual clean-up or overhaul and we have a total of 79% of the Springfield-area homes receiving more than just casual attention to their oilheating equipment.

The average of prices charged for service contracts including parts replacement, $25, is reasonable compared to comparable markets. For service contracts which do not include parts, the average price is $15. The median price for an annual clean-up (where not covered under a service contract) is $10. The average minimum charge for non-contract service calls by fueloil companies at $3.37 is lower than the average charge of $4.28 made by companies who don't handle fueloil.

Advertising Promotion

The majority of the oil men in this area feel that oilheat advertising by individual major companies has been only moderate in extent.

A somewhat heavier advertising effort by individual, independent marketers was noted . . . 23% of these companies spend an average of $1.20 per account (or, by another measurement, 2.4% of gross sales income) on promotion of oilheat through the usual media channels.

The establishment of a cooperative, local industry promotion program for oilheat began only in 1954. Prior to last year there was no such organized effort.

In 1954, the members of the Fuel Oil Council of Western Massachusetts secured the services of Keith F. Fletcher as executive secretary of the new group. In that year, a total of $1,500 was raised and spent in newspaper oilheat advertising.

In 1955 the group doubled this promotion budget.

TABLE 1

Area Centering Around	*Utility Serving Area*	*Lowest net rate per Mcf*	*Cost per therm (100,000 Btu)*	*Cost compared to oil*
Springfield	Springfield Gas Light Co.	$1.25*	12.1¢	15.2 % higher
Holyoke	City of Holyoke, Gas and Electric Dept.	1.15	11.5¢	9½% higher
Westfield	City of Westfield, Gas and Electric Dept.	1.20	12. ¢	14¼% higher
Northampton	Northampton Gas Co.	1.35	13.5¢	28½% higher

*Natural gas of 1,030 Btu per cu. ft. The rates of all the other utilities are for natural gas of 1,000 Btu per cu. ft.

TABLE 2

Trucks per Company	*Number of Companies*	*Percent of All Companies*	*Total Trucks*	*Percent of All Trucks*
10 or more	0	—	—	—
6 to 9	3	2%	20	8%
3 to 5	20	16	74	30
1 or 2	104	82	152	62
Totals	127	100%	246	100%

*Copyright 1955. Oilheating Market Reports, 270 Park Ave., New York, N. Y.

OILHEATING MARKET REPORTS*

York, Penna.

THE YORK marketing area for fueloil includes all of York and Adams Counties of Pennsylvania.

The electric utility serving the region estimates that there are 67,000 homes in the two counties. The new homes completed in the past four years were:

1951—2,683	1953—2,294
1952—2,613	1954—2,326

If we think in terms of a five-year interval between the Census taken in the Spring of 1950 and the present time, the total new homes constructed were about 12,400.

Competitive Fuels

Our earliest count of oilheating users was of course the 1945 tally of fueloil rations in the two counties. At that time we found 3,564 centrally-heated residences burning oil; that was 2.6% of the state's total. When we move up to the 1950 Census of Housing we find 12,836 homes oilheated with boilers or furnaces, or 3.8% of the state's full count.

In 1955 we identify approximately 20,336 residences enjoying oilheat, or 4.3% of Pennsylvania's total.

Gas had in 1950 about 4,268 central heating home users, or 1.0% of the state. By 1955 this had grown to 13,268 which is 2.4% of all Pennsylvania. The region has been a happy hunting ground for both fuels.

In the five years since 1950 oil has added about 3,750 users through conversions from coal and 5,000 in new homes, but has lost around 1,250 to gas. Gas heating in that period added 1,750 through conversions from coal, 1,250 from oil and put 6,000 jobs into new homes. These detailed estimates are from studies by the York Division, Oil-Heat Association of Central Pa.

Starting with the Census figures for fuels used in centrally heated one-and-two-family homes and making the five-year adjustments indicated, here is the growth comparison:

	1950	*1955*
Coal heated	24,710	19,960
Gas heated	4,268	13,268
Oilheated	12,836	20,336
Other	1,866	2,389
Total	43,680	55,953

Fuel Costs

Hand-fired sizes of anthracite sell for $18.50 a ton of 13,200 Btu quality. This is 7¢ a therm, or 100,000 Btu. The stoker size at $14.40 for anthracite with estimated heat content of 12,500 Btu per pound figures out at only 5.8¢ per therm.

The cost of gas in this market is surprising because it's so much cheaper than in other markets only 40 miles away. The heating rate is 6.5¢ per therm, or more like Midwest cities close to the supply sources. But here's the interesting point. It's so cheap that the utility finds little pleasure in it and is not pushing its sale very hard.

No. 2 heating oil at the winter rate of 13.9¢ comes out at 9.9¢ per therm. At that rate it's getting nearly half of the new home market and more than half of the conversions from coal.

Fueloil Distribution

With an estimated 20,336 residential oilheating users in the two-county market and a further 1,220 small commercial customers also burning No. 2 oil for heating we have a total of 21,556 accounts. During the 1954-55 heating season they burned an average of 1,477 gallons. This indicates that the actual demand during the season past was 31,838,000 gallons. But we notice that the season in York was 5.3% warmer than the Weather Bureau's new basis for "normal." If we make this adjustment the true demand based on last season was 33,605,800 gals., or 800,000 bbls. of No. 2 oil.

Oil coming into this market is furnished in the ratio of 77% by major companies and 23% by independent wholesale suppliers, mostly based on tanker terminals at Philadelphia or Baltimore.

At the retail or tank wagon level the major companies sold an estimated 17% of the total No. 2 oil consumed and the independent fueloil distributors had the rest of the business or 83%.

Following the general pattern of the Mid-Atlantic states a good number of the local oil companies do not operate their own bulk plants but load at another company's racks. The group of independent and major representatives that helped with this study believe that 65% of the companies buy "under the fill" and they handle 42% of the total two-county gallonage.

York and the surrounding country shows a good level of delivery refinements, with 84% of all oilheating users being supplied on an automatic delivery basis and 60% of the customer tanks being fitted with VENTALARM signals, so the driver never has to enter the home. Another index to good operation is the degree of adoption of monthly budget payment plans . . . by 21% of all customers.

Market Concentration

An unusually large portion of the business here is done by smaller companies. It is not as acute a situation as would be indicated by the number of trucks shown in the table because the smaller operators tend toward lower output per truck, but still it's significant.

When we take the total gallonage of the market and deduct the majors' share of direct business, we find that these 114 trucks of independent companies averaged delivering only 240,000 gallons of fueloil during the 1954-55 season. That shows of course that quite a few of them are used on rural routes where they carry other products in addition to No. 2 oil.

A surprising 84% of the marketers also sell gasoline, much higher than any market studied thus far excepting Duluth, Minn., with 88%. Only 13% of the fueloil men are in the coal business and 32% sell oilheating equipment.

Oilheating equipment Sales

A few of the fueloil companies are doing a bang-up job of selling oilheating—two or three in particular have had national recognition—and this is reflected in the finding that 56% of oilheating is sold by oil companies. Here's how it figures: with new installations in the two counties running 1,750 a year, the oil men account for 980. Plumbing and heating contractors sell in the average year 560, or 32%, and the remaining 12%, or 210, are sold by oilburner service and installation specialists. These men get a lot of the replacement business, for obvious reasons.

Oilburner Service

In this activity the oil companies go a little farther, with an estimated 62% of this work being done by them, while plumbing or heating companies handle 31% and specialized burner service companies take care of the remaining 7%.

As to the nature and cost of burner service in this region we learned that about 47% of users are on service contracts, for which they pay $22 if parts are included and $17 if they are not. An additional 18% of homes get a yearly clean-up and adjustment of their oilheating equipment for the modest cost of $12. Those charges are, on the whole, low.

Individual call charges, though, are unusually high. Oil companies charge an average of $5.03 and heating or service companies with no oil interest charge a dollar more for non-contract call-ins.

Advertising Promotion

A moderate amount of advertising of fueloil and oilheating has been done by the major companies in this market, in the opinion of two-thirds of the oil men consulted. The other third says they have advertised very little. They all pretty well recognize that this kind of advertising is to glorify company branded fuels.

The local fueloil distributors rate high on advertising with 46% of companies said to use the typical media. Those companies spend an average of 77¢ per existing oil account . . . those who figure it that way . . . or 0.9% of their gross billing if that's their basis of measurement.

There has been no cooperative advertising or promotion of oilheating on any significant scale in this market. However, in asking OHMR to make this analysis the local association explained that it is anxious to start a campaign and is undertaking the necessary arrangements. A basis of contributions proposes that the fueloil distributors supply to a common fund $250 annually for each million gallons of No. 2 oil sold and the supplying companies, either major or independent, $150 per million on their wholesale business and $250 on their direct sales.

The secretary of the York branch of Oil-Heat Association of Central Pennsylvania is John Hoback, c/o G. H. Wolf, Inc., 303 N. Sherman St., York, Penna.

Truck Usage in York-Adams Counties

Trucks per Company	*Number of Companies*	*Percent of All Companies*	*Total Trucks*	*Percent of All Trucks*
10 or more	2	4%	20	18%
6 to 9	2	4	16	14
3 to 5	8	17	25	22
1 or 2	34	75	53	46
Totals	46	100%	114	100%

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Simplified duct Installation

Part III discusses Methods of installing main Supply and return Trunks

by
Carl Machia*

INSTALLATION of main supply and return trunks has been a worry to some heating men who are not too familiar with warm air. The erection of these trunks and the tying in of the leader pipes is actually quite simple, however.

In this article we will consider step by step the installation of a warm air trunk. Since these articles are more for heating men who do not have a sheet metal shop, or those who have limited facilities and manpower, I will use a prefab duct system.

A sketch (Fig. 17) for you or your men to follow should be made and taken along on the job. This sketch need not be elaborate. A rough outline will do. This plan is useful in taking off a bill of material. Actually, the time to make this sketch is when register locations are marked out.

Furnace location has a very important bearing on any warm air system. The location should be picked by the oilheating dealer to conform with the best possible duct layout and the dealer should go over this location with the builder.

The best location is as close to the chimney as possible. The heating unit should be placed where the trunk lines can clear obstructions in the cellar (stairway, plumbing stacks, lighting fixtures, etc.).

A straight line trunk is by far the most practical for the heating man and has greater customer appeal. (A straight line trunk is one which starts at the unit and runs straight down through the cellar, having the furnace placed so that it's not necessary to go off the plenum with flat 90° elbows.)

After the unit has been located and set up, you are ready for duct work. First step is to sort out fittings and pipe. Set up some sort of a work bench in the basement; the furnace packing case or two saw horses with a couple of planks will eliminate working on the floor when cutting duct, etc. One or two small step ladders should be on hand, a few lath nails and a small supply of sheet metal screws. The tools needed are few:

1. Tinner's hammer
2. Straight snips
3. Aviation snips
4. Electrician's pliers
5. Screwdriver
6. Ruler
7. Awl
8. Hand drill

Erection of the plenum is first. The height is important and should be carefully measured and cut. This is done by measuring from the top of the flange to the bottom of the joist (Fig. 18). Before placing the plenum on the furnace, cut in collars. To do this, measure the notched end of the collar to determine the size opening to cut in the plenum.

Now measure down 1" from the top to miss the indentation in the plenum top and cut out the opening (Fig. 19). If the code in your locality calls for trunks to be 1" below the joist, cut the opening 2" down from the top.

Install the plenum by first placing four s-locks on the flange of the unit (Fig. 20). The plenum then slides over the top of the unit and down into the s-locks, making an air tight connection. A canvas connector may be placed betwen plenum and unit if desired. The top of the plenum is now 1" down from the joist, but you will notice this particular starting collar has a 2" offset. Plenum is 1" below the joist and the opening 1" down on the plenum, leaving the opening 2" below the joist. That is the reason for the 2" offset in the starting collar—to bring the trunk back up tight to the joist.

The plenum may then be secured to the unit with sheet metal screws, making a firm base for the trunk line.

You will notice that Fig. 17 shows a conventional system. Installation of trunks in a perimeter system is the same, except that warm leader pipes are run to the outside walls and return air is taken from the inside walls, just opposite from Fig. 17. Fig. 21 is a sketch of a perimeter system.

Now for the first stack opening. The trunk must be run up to the opening and the top take-off cut in. (This is a pressure system, using graduated trunk, top and side take-offs.) This is done by measuring from the ½" fold on the starting collar to the closest

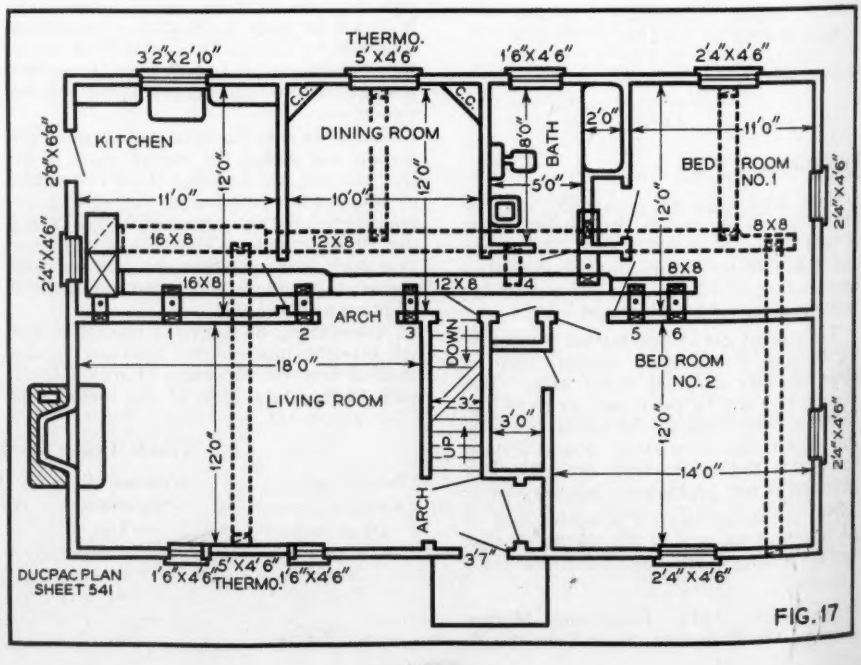


FIG. 17

*Supervisor of warm air duct installations, Duc-Pac Division, Swett Bros., Springfield, Mass.

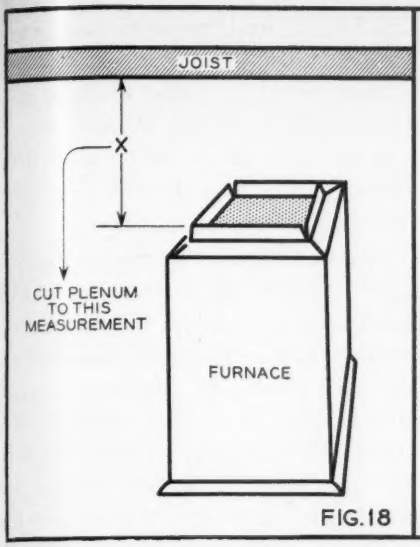


FIG. 18

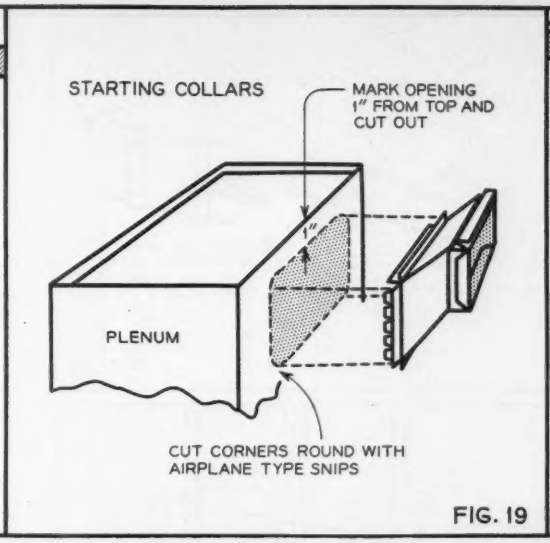


FIG. 19

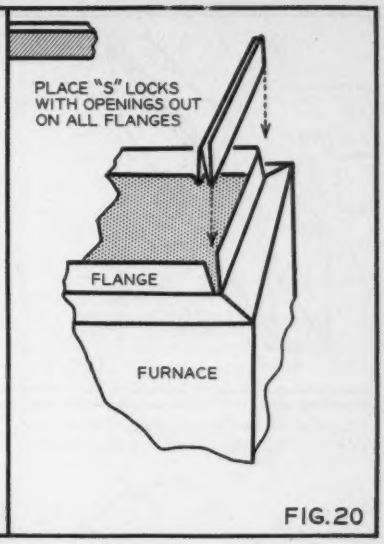


FIG. 20

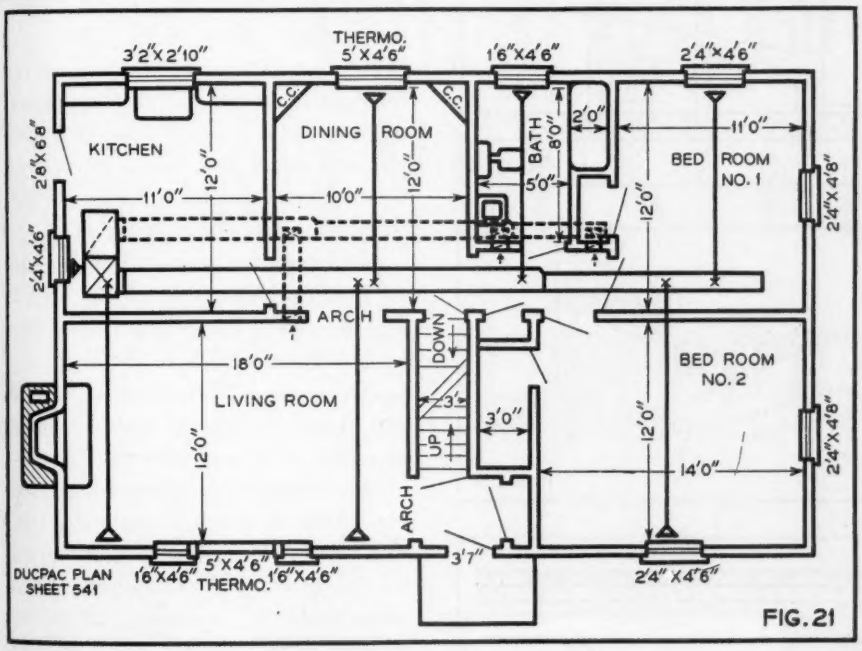


FIG. 21

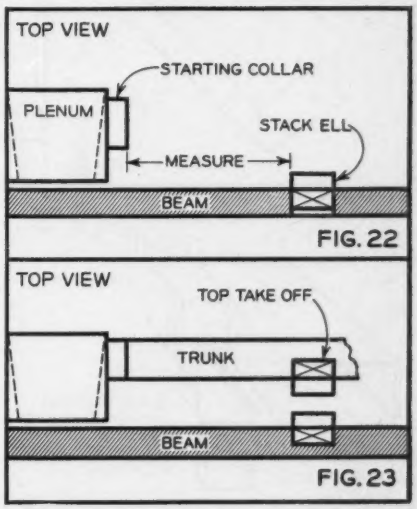


FIG. 22

FIG. 23

edge of the stack opening (Fig. 22).

The top take-off is then cut in on the length of trunk pipe before it is fastened to the starting collar. Fig. 23 shows how the top take-off lines up with the stack elbow after the length of pipe has been erected.

Next step is to fill in between the top take-off and stack elbow with a piece of leader pipe. To get the exact size, take a measurement from the ½" fold on the top take-off to the ½" fold of the stack elbow.

Now, add ⅞" to this measurement for make-up. Cut this piece of pipe from a stock piece of stack duct by following the procedure outlined in Fig. 24. After the piece is cut, assemble it and bend a ½" fold for drive clips. The ½" folds are made with a hand bender as in Fig. 25.

There is one more operation before installing this piece of stack pipe—the damper. Dampers should be placed in each stack run as close to the trunk as possible. Without dampers, a system cannot be balanced properly. The manual damper is installed as outlined in Fig. 26. The piece of stack duct is then installed as in Fig. 27.

Remove the drive from the left hand side of the trunk duct, swing the trunk out as far as possible. Fasten one end of the stack pipe to the stack elbow. Now swing the trunk back into place, letting the top take off slide in the s-locks on the end of the stack duct. Finally, put on drive clips and you have finished connecting the first run to the trunk.

Trunk ducts in this type of prefab are 3 ft. long. Since the next supply is more than 3 ft. away, connect a full 3 ft. section to the trunk and then proceed, as with the first supply, to install the next run. After this supply take-off, trunk size must be decreased. This type of trunk line is known as a graduated trunk and this particular prefab graduates by 4", using one type of fitting for all graduations.

To install this 4" increase, simply cut out 8¼" from the side of any trunk pipe and assemble the fitting to the trunk as shown in Fig. 28. (A tip: It is always easier to cut out the 8¼" from the trunk pipe before seaming the pipe together. It may seem complicated at first, but becomes easy with practice and is a big time and labor saver.)

Now that the trunk has been decreased to its final size, continue connecting supplies to the trunk, cap off the end with a trunk cap.

When hanging the trunk, run the complete trunk, using bailing wire to hold it up in place and keeping equal distances between beam and trunk to give straight, neat appearance. When the trunk has been completed, go back

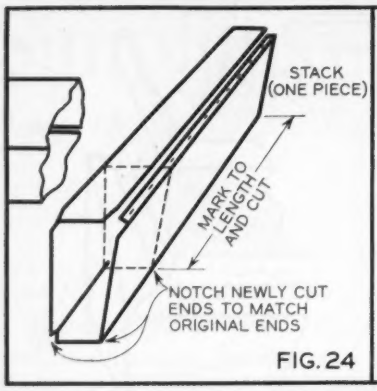


FIG. 24

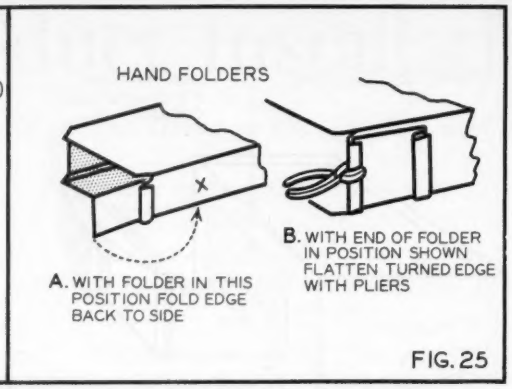

HAND FOLDERS
A. WITH FOLDER IN THIS POSITION FOLD EDGE BACK TO SIDE
B. WITH END OF FOLDER IN POSITION SHOWN FLATTEN TURNED EDGE WITH PLIERS

FIG. 25

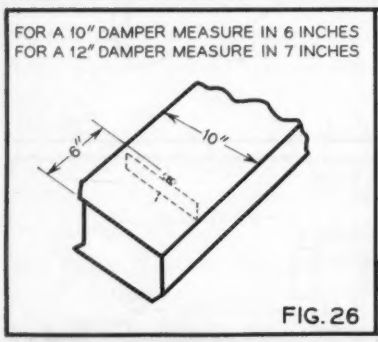


FIG. 26

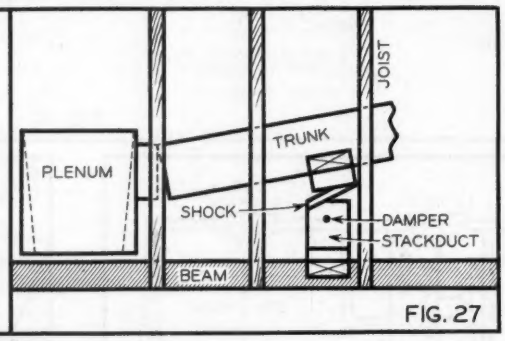


FIG. 27

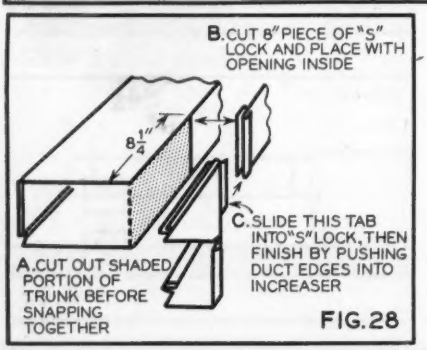

B. CUT 8" PIECE OF "S" LOCK AND PLACE WITH OPENING INSIDE
8 1/4"
C. SLIDE THIS TAB INTO "S" LOCK, THEN FINISH BY PUSHING DUCT EDGES INTO INCREASER
A. CUT OUT SHADED PORTION OF TRUNK BEFORE SNAPPING TOGETHER

FIG. 28

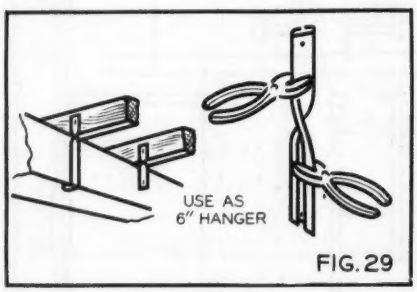


FIG. 29

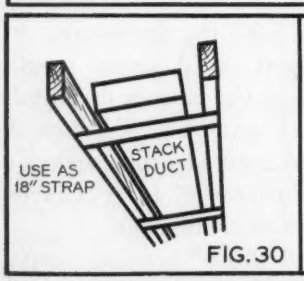


FIG. 30

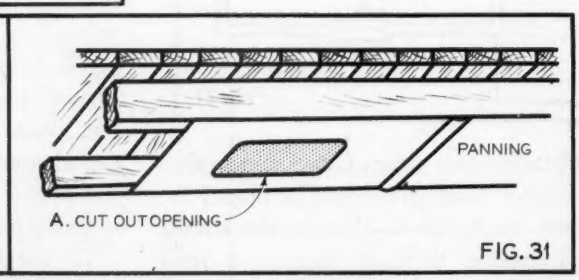


FIG. 31

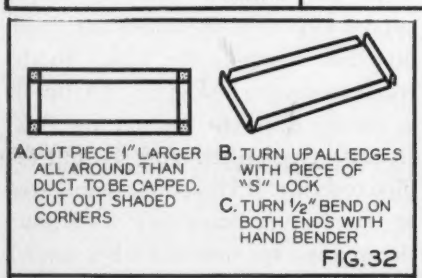

A. CUT PIECE 1" LARGER ALL AROUND THAN DUCT TO BE CAPPED. CUT OUT SHADED CORNERS
B. TURN UP ALL EDGES WITH PIECE OF "S" LOCK
C. TURN 1/2" BEND ON BOTH ENDS WITH HAND BENDER

FIG. 32

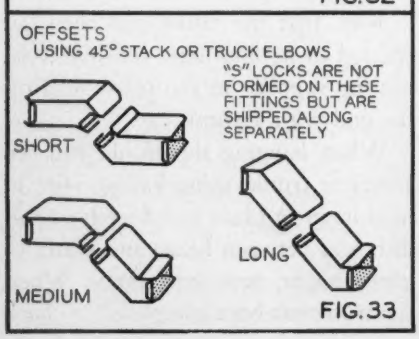


FIG. 33

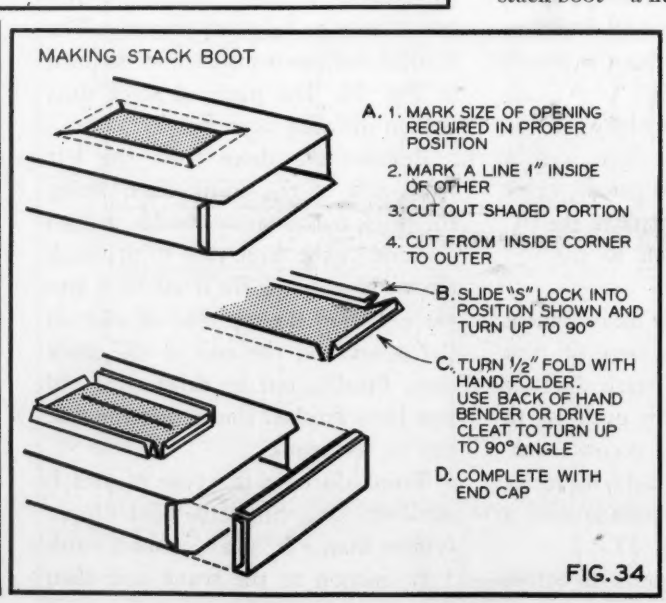

MAKING STACK BOOT
A. 1. MARK SIZE OF OPENING REQUIRED IN PROPER POSITION
2. MARK A LINE 1" INSIDE OF OTHER
3. CUT OUT SHADED PORTION
4. CUT FROM INSIDE CORNER TO OUTER
B. SLIDE "S" LOCK INTO POSITION SHOWN AND TURN UP TO 90°
C. TURN 1/2" FOLD WITH HAND FOLDER. USE BACK OF HAND BENDER OR DRIVE CLEAT TO TURN UP TO 90° ANGLE
D. COMPLETE WITH END CAP

FIG. 34

and hang it, using metal hangers as in Fig. 29.

Some installers prefer to hang the trunk as they go along. When following this procedure, try to keep the trunk edge the same distance from the carrying timber.

Return air trunks are run and stack pipes connected to it using the same procedure followed on the warm air trunk, starting the stack pipe from the stack elbow and running as many full lengths as possible toward the trunk. The last piece is connected to the top take-off in the same manner as the warm air stack. To hold return stacks up between the joists, follow the example shown in Fig. 30.

Another method of taking back return air is by the use of panning—a strip of metal cut 16" wide (for joist 16" on center) and nailed to the bottom of the joist, thus utilizing the bay space as return duct (Fig. 31).

Following are ways to make end caps, stack boots, and offsets on the job, if short. These hints may save you costly trips back to the shop.

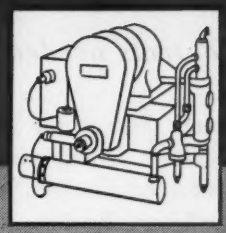
Fig. 32 shows how to make an end cap from a piece of duct, panning material, or a piece of scrap.

One of the big problems for heating men without shops is obtaining correct offsets. With the prefab we are discussing you can obtain any desired offset simply by reversing two 45° elbows (see Fig. 33).

An expensive fitting to buy, and one which can be bought prefab only in right, left, or center models, is a stack boot—a fitting used to change direction of a stack. By following the directions in Fig. 34, using a piece of standard duct you may not only make a right-left-and-center stack boot much cheaper than you may purchase one, but may also make yourself anything in between a right, left or center.

In conclusion, let

(Please turn to page 142)



COMMERCIAL & INDUSTRIAL oilburning

SECTION

fueloil & oil heat

NEW YORK

COMMERCIAL & INDUSTRIAL oilburning

Zone Control Details for big steam heating Plants

Dealer know-how provides the Zone Controls needed for many already-installed Systems

by
Jean L. Dupuis

SERVICE AND INSTALL commercial burners, and you are bound to encounter many large steam plants installed more than 15 years ago.

Assume you are alert and eager to increase your business volume by selling your customers modern heating equipment they need badly. Then encountering these big steam heating systems, you should be keenly aware that many of them need equipment developed in recent years, since these systems were installed. They need the equipment that provides the advantages of zone control.

The idea of zone control really is nothing new. Twenty years ago several manufacturers offered the motorized valves needed for zoning steam heating systems. But as far as most commercial-industrial oilburner experts are concerned this idea may as well be brand-new. Because to date these specialists have been doing little or nothing about providing zone-control advantages for the thousands of already-installed big steam heating systems that need these advantages.

You may have the opportunity to become the commercial-industrial zone-heat specialist in your community. Two steps are involved: (1) Eyeing every local commercial-industrial installation with zone control on your mind, and selecting and concentrating first on those which will be improved most by giving them zone-heat benefits; (2) Learning the methods of changing ordinary heating systems to zone-heat systems.

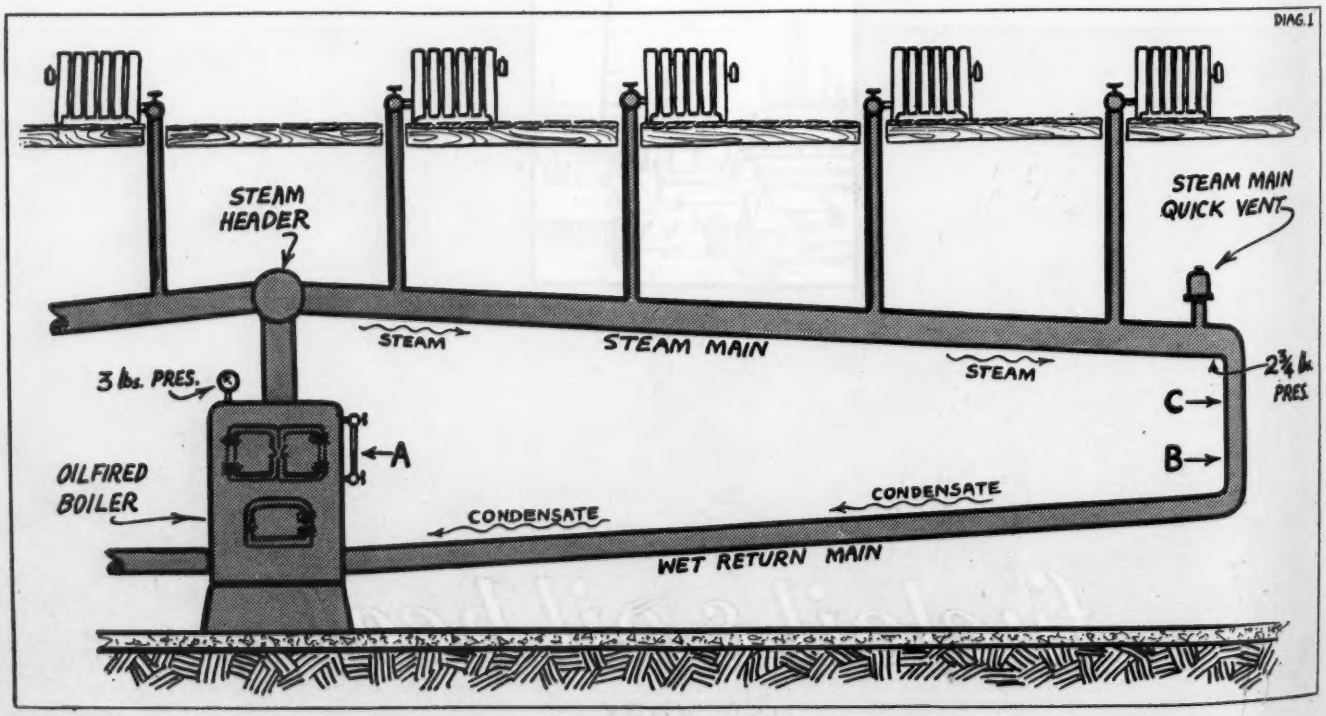
Don't underestimate the importance of the second step. Fools boldly walk where angels fear to tread. Particularly in the case of one-pipe steam heating systems, don't go ahead with your zoning before getting an education on what to do and what not to do. Before going to work at installing motorized steam-main valves, draw up your plans carefully and have them checked thoroughly by experts—steam-heat experts and experts at planning the installation of controls and motorized steam valves.

A certain error is made so often (each year brings a stack of letters to the FUELOIL & OIL HEAT "Readers' Problems" department about this error) that an effort will be made here to warn FO&OH readers against making it.

This error consists of trying to change a big one-pipe steam system

In this drawing *(Diag. 1) normal boiler waterline is at level "A." With boiler producing no steam, level of water in vertical return line at right-hand side of drawing is at "B"—exactly the same as level "A." With 3 lbs. pressure on boiler and all radiation full of steam, pressure at right-hand end of steam main is 2¾ lbs., as drawing shows. The steam main operates under a pressure drop. Wet return main also operates under a pressure drop.*

Sum total result of both pressure drops is that level of water in return must rise from "B" to "C" for condensate to return to boiler while it carries its full load.



to a zoned-heat system merely by installing motorized valves in its steam mains.

Here's an example: A FO&OH reader whose main office is in Brooklyn writes that he found this 75 hp steel boiler, fired by a big pressure burner, heating (1) an eight-room rectory, (2) a fairly big church, and (3) a 60' x 85' building used Sundays as Sunday school and several nights a week as a recreation hall or community center.

"They had trouble finding a proper location for the room thermostat," the reader relates. "I wound up with it in the rectory because it is always occupied of course.

"Giving the church heat meant setting up the thermostat in the rectory, the minister turning off the rectory radiators and turning on all the church radiators.

"I figured a zone-control set-up would be good for this job," goes on the contractor showing a fine flare for understatement.

"Three steam mains simply left the dripped steam header over the boiler to provide steam for the three buildings. So I simply installed three motorized steam valves. A 2" valve for the rectory, 4" for the church, 3½" for the recreation hall. Boiler always is at minimum temperature of 160°F., providing hot water from its tankless heater. Opening of one of the motorized steam valves closes burner's thermostat circuit and causes burner to provide steam for the zone that needs it. Each motorized valve has an auxiliary switch for this.

"My trouble is that water often leaves the boiler now when one or more zones need heat. Radiators waterlog, starting with those farthest its low-water control. If I add water from boiler, and burner is stopped by to the boiler to start the burner, later the boiler floods and even its steam header fills up with water. I've got to drain loads of water from the boiler to see a waterline in the gage glass again."

Improper planning of the zone-control set-up, plus poor understanding of typical one-pipe steam heating plants, got this contractor into trouble not solved easily and inexpensively. A

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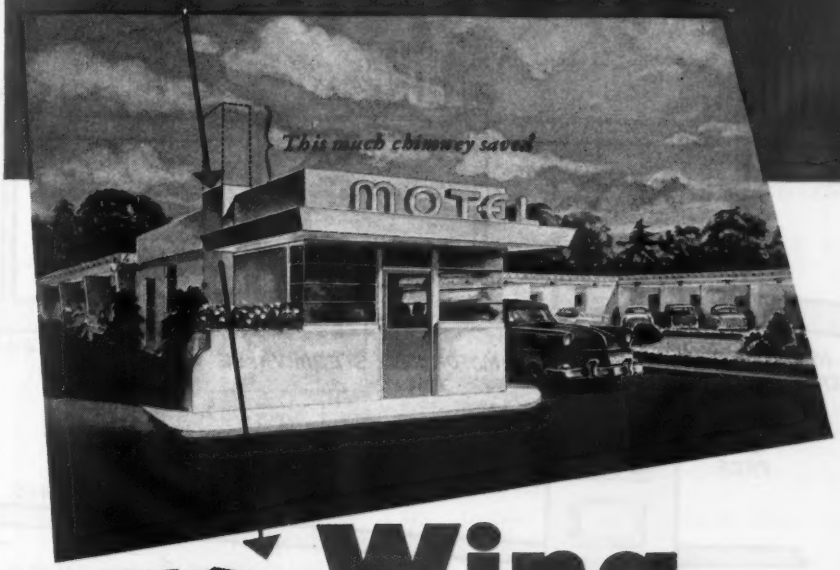

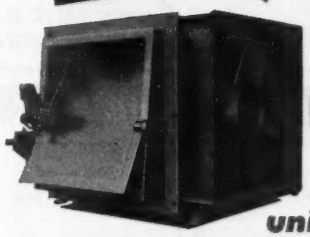

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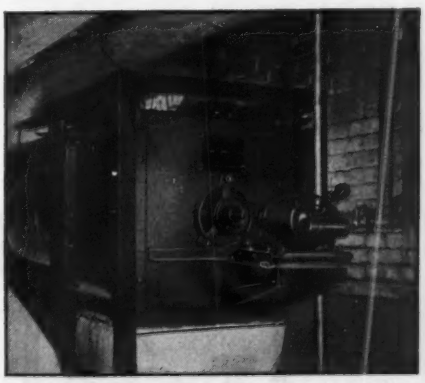

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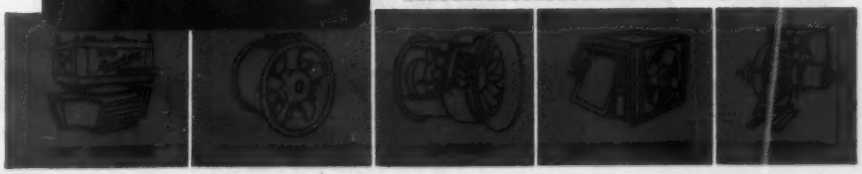
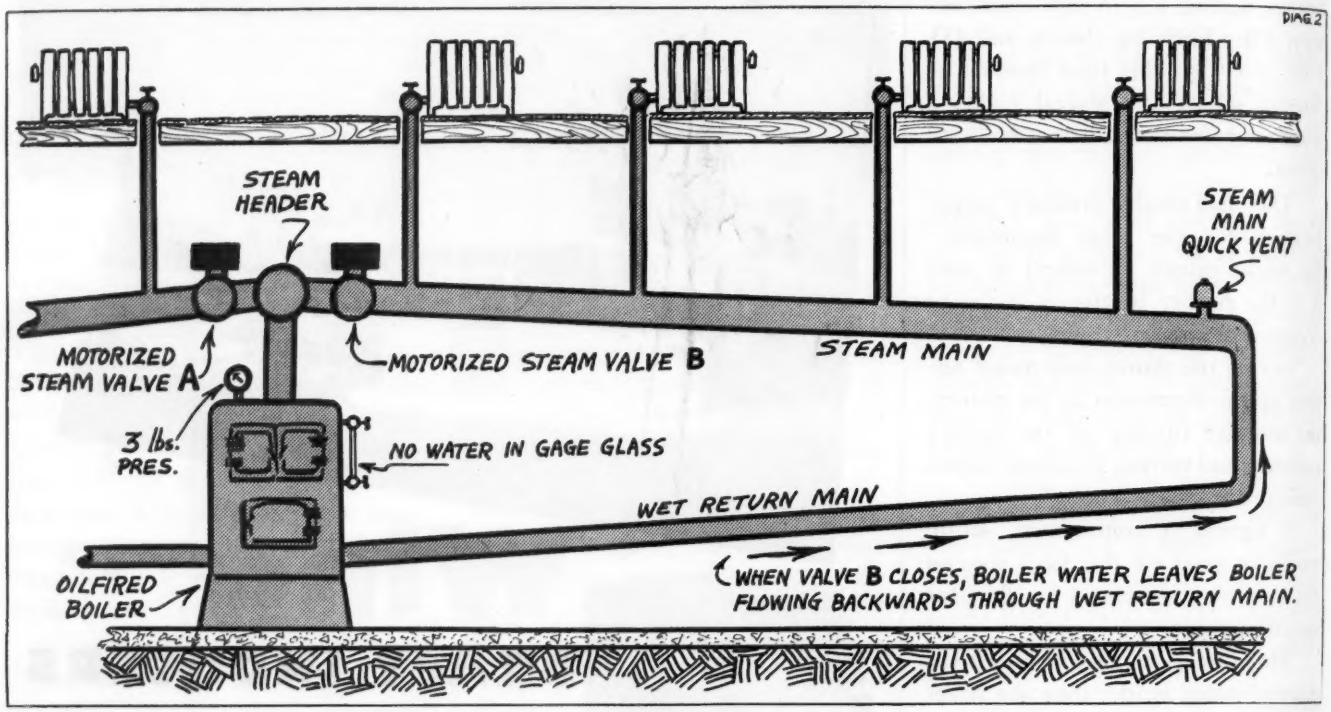


Diag. 2. *Same steam heating system as in Diag. 1, but a contractor unwisely tried to convert it to two-zone system simply by connecting motorized steam valves "A" and "B" in its two steam mains. Start with valves "A" and "B" closed and no steam coming from boiler. Valve "A" opens and burner starts because zone "A" needs heat. Carrying light load of only one zone, boiler soon develops 3 lbs. steam pressure. Valve "B" is closed, radiator and steam main air vents of zone "B" are cold and open. To start, then, there's no pressure in steam main of zone "A." With 3 lbs. pressure on left-hand end of wet return line in drawing and no pressure at the right-hand end, boiler water quickly leaves boiler, forced out by the 3 lbs. boiler pressure. Steam mains and radiators of turned-off zone "B" can be filled with water and burner stopped by its low water control.*


DIAG. 2
STEAM HEADER
STEAM MAIN QUICK VENT
MOTORIZED STEAM VALVE A
MOTORIZED STEAM VALVE B
STEAM MAIN
3 lbs. PRES.
NO WATER IN GAGE GLASS
WET RETURN MAIN
OILFIRED BOILER
WHEN VALVE B CLOSES, BOILER WATER LEAVES BOILER FLOWING BACKWARDS THROUGH WET RETURN MAIN.

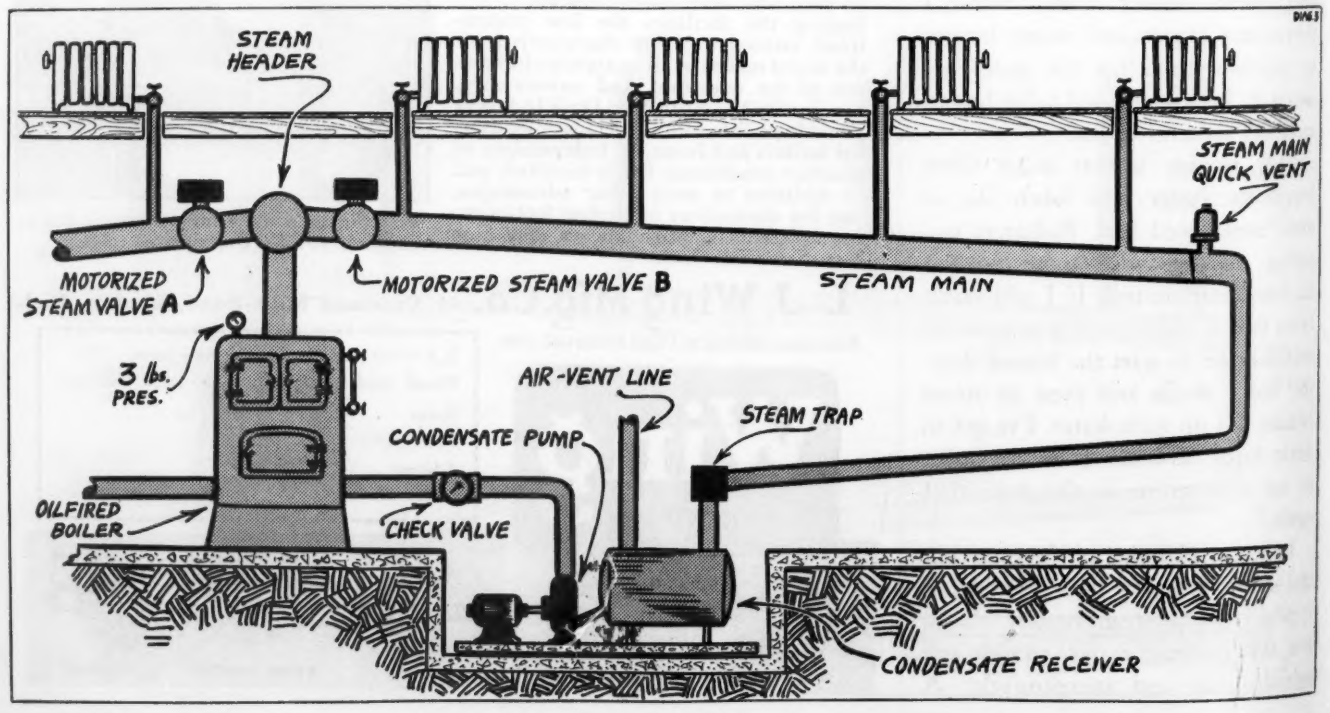
study of the three accompanying drawings shows this.

Diag. 1 and its caption need your attention at this point. They deal with the proper operation of a one-pipe steam heating system.

With the boiler cold, not steaming, the level of water in the vertical pipe at the right-hand side of the drawing is the same as the level of water in the boiler; "water finds its own level."

With the boiler steaming hard

Diag. 3. *Standard, dependable manner of applying zone heat features to new and already-installed one-pipe steam heating systems. Each zone's return main terminates in a steam trap, as shown here for zone "B." Trap opens for condensate (water) but closes when steam from main reaches it.*



enough to carry its full radiation load, steam is flowing from left to right through the steam main at its design velocity. Condensate is flowing from right to left through the wet return main at its design velocity. Because there can be no flow of steam through a pipe without a pressure drop (the steam pressure at the input end of a main must be higher than the steam pressure at the output end of the main —to produce a flow of steam through a main) the steam-main pressure at the boiler end of the main must be higher than the steam-pressure at the other end (right-hand end in the drawing).

Thus a steam main has a pressure drop. The engineer who laid out the system selected the steam main size to provide a certain pressure drop—a drop that corresponded to his idea of proper operation under full load conditions.

Under full load conditions, condensate must flow from right to left through the wet return main in Diag. 1. Because pressure drop again comes into the picture, the pressure at the right-hand end of this return line must be greater than the pressure at the left-hand end. If this pressure difference or pressure drop did not exist, condensate would not flow through the return main to the boiler.

The pressure drop of the steam main and the pressure drop of the return main have a sum-total result. For condensate to return properly to the boiler under full-load conditions, the water in the vertical pipe at the right-hand side of Diag. 1 must rise to a level higher than its level when the boiler is not steaming. Some heating engineers term this "false waterline" effect. If this effect is excessive because of undersizing of either the steam main or the return main, the level of water in the input end of the return line will become too high under full-load conditions. As a result, condensate will not flow back to the boiler rapidly enough. The level of water at the input end of the return main will be-

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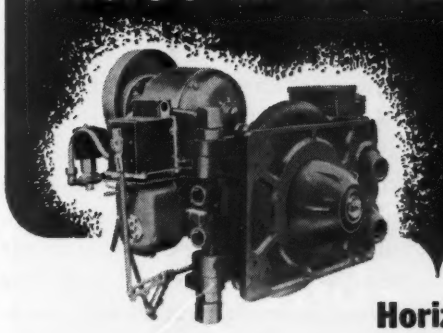

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Horizontal Rotary Oil Burners, and Combination Oil and Gas Burners

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Burner Size	Motor HP	Oil U.S. Gals. Per Hr.	Gas Cu. Ft. Per Hr.	Boiler HP	Steam EDR 240 Btu	Hot Water EDR 150 Btu	Lbs. Steam Per Hr.
AA	½	4	600	13	1,800	2,880	450
A	½	7	1,050	23	3,200	5,120	795
C	½	15	2,250	50	6,950	11,120	1,270
E	½	20	3,000	67	9,310	14,900	2,310
F	¾	28	4,200	93	12,930	20,700	3,270
G	1	35	5,250	116	16,125	25,800	4,000
H	1	50	7,500	166	23,075	36,900	5,725
J	2	70	10,500	233	32,390	51,800	8,040
K	3	100	15,000	333	46,290	74,000	11,490
L	3	135	20,250	450	62,550	100,000	15,525
M	5	200	30,000	666	92,575	148,100	22,975

All maximum capacities are necessarily approximate. Burners installed with adequate draft provisions and correct furnace volume, properly designed, will develop capacities indicated, at sea level

APPLICATION

Enterprise Horizontal Rotary Burners are specifically designed for Commercial and Industrial use. Commercial heating includes heating plants in all types of buildings larger than private homes, including *apartment houses, hotels, hospitals, schools, greenhouses, public buildings, offices, manufacturing plants.* Industrial applications include *furnaces, kilns, driers,* etc.

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Semi-Automatic—Started and stopped by operator, but automatically regulated by temperature or pressure control.

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come higher and higher until the output (left) end of the steam main is improperly full of water. Becoming still greater, the trouble results in flooding or water-filling of the steam radiators, beginning with those at the far end of the steam main.

When you become properly appreciative of this "false waterline" effect on which proper operation of a one-pipe steam plant depends, you realize these points:

1. Proper operation of a one-pipe steam plant depends on proper design—on proper sizes of steam mains and return mains, and on the ends of the steam mains being sufficiently higher than the waterline of the boiler.

2. Plugging of steam or return mains increases their pressure drops and can lead to excessive "false waterline" effect with resultant flooding of steam mains and possibly the radiators.

3. You can't balance or adjust a one-pipe steam plant by using boiler-room throttling valves located in the different steam mains, for throttling the flow of steam to a main produces excessive pressure-drop for the main—gives the identical effect of an undersize main.

4. With steam pressure on a boiler (as in Diag. 1), closing off a steam-main valve located in the boiler room will stop the flow of steam to the main, but will cause reverse-flow of water through the condensate return line serving the steam main. Flowing backwards through the return line, boiler water first will fill the far end of the steam main, next will fill the radiators connected to the steam main.

Diag. 2 shows how the Brooklyn contractor tried to convert the ordinary one-pipe steam church job into a three-zone system. Making the same error that brings the stack of letters to the FUELOIL & OIL HEAT "Readers' Problems" department every year, this Brooklyn contractor thought he licked the problem simply by installing three motorized steam valves, one in each of the job's three steam mains. For simplicity, only one of the zones is shown in Diag. 2. Each of the three zones gives the trouble given by the zone which appears in the drawing.

In Diag. 2, consider all the radiation cold, and the boiler hot but not steaming to start out. Motorized steam valve "A" opens because its zone needs heat, and the burner starts producing steam because the auxiliary switch of this valve closes when the valve opens.

Carrying the light radiation load of only one zone, the boiler soon develops appreciable steam pressure, say 5 lbs. gage pressure. Boiler water will be forced backwards through the return main of zone "B" by this pressure. The zone served by motorized steam valve "B" will get into trouble. The backwards flow of boiler water through this zone's return line will fill zone "B" steam main with water from the boiler. Carrying the effect far enough results in waterfilled radiators in zone "B." When enough water leaves the boiler, the burner will be stopped by its low-water cutout.

Trouble even worse than just described can occur under these conditions. On a cold morning, motorized steam valve "B" remains open for two

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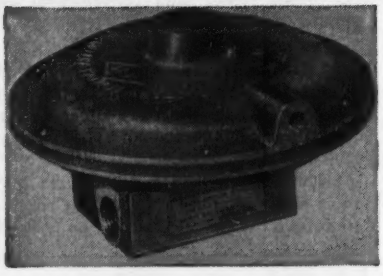

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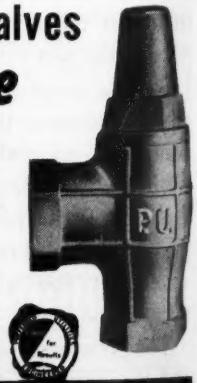

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hours while there's 5 lbs. gage pressure on the boiler. Every radiator fills with steam therefore. Every radiator vent valve closes dead-tight; the steam-main quick-vent also closes dead-tight. Steam has reached all the vent valves.

Now motorized steam valve "B" closes. In all the steam piping and radiation fed by this valve, steam condenses. The small amount of water formed by the condensing steam occupies just about no space compared to the space occupied previously by the steam, thus a terrific vacuum develops in zone "B" . . . with the result that boiler water is sucked through the return main into all the radiators and steam pipes of zone "B."

After a contractor has gotten into the type of trouble represented by Diag. 2, only through luck can he find an easy, inexpensive way out of the trouble. If he is extremely lucky in that the lowest ends of the steam mains are greatly higher than the waterline of the boiler, he can get out of the trouble by setting the high-limit steam-pressure control of the boiler to stop the burner when the boiler pressure is but a few ounces. Usually that means switching to an extremely sensitive steam-pressure control.

With the boiler developing a maximum steam pressure of, say, four ounces, never will there be sufficient pressure in the return line of a turned-off zone to raise boiler water to the level of the zone's steam main.

Following this pattern, obviously the radiators and steam mains must be equipped with rapid-acting venting specialties, so that every radiator will heat properly with only a few ounces of steam pressure on the boiler.

But the idea of getting out of the trouble by using ounces instead of pounds of boiler steam pressure will work only if the steam mains are greatly higher than the level of water in the boiler. The steam mains and radiation they serve must be much higher (above the waterline of the boiler) than represents good practice in steam heating systems to which zone-control features have not been applied.

In an effort to get out of the trouble shown in Diag. 2, some contractors have tried installing a check valve in each of the return lines connected to

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the boiler. A check-valve in the return line of a zone, these contractors have reasoned, should prevent backwards flow of boiler water through the return line of a zone, with steam pressure on the boiler and with the zone's motorized steam valve closed.

In many instances, using the check-valves in the return lines has done little or no good. The reason for this is that on a practical basis you cannot expect a usual check-valve to close dead-tight when it should be closed. Even a brand-new check-valve, size 1" to 2", will permit water to seep through it backwards when it should be tight-closed. Trouble results in a zone-heat job if a check-valve is supposed to remain tight-closed for half a day or so, but permits boiler water to seep into a return line at the rate of only half a gallon per minute. Becoming older, check-valves leak still more than when new. A speck of dirt or pipe scale in a check-valve can hold it so far open as to render it completely ineffective.

A check-valve in a return line does prevent a sudden, vast flow of water from a boiler . . . for example when a motorized steam valve closes and a vacuum develops in a zone served by the check valve. Thus a check-valve does SOME good in certain systems. To benefit by the good in a check-valve that's obtained in this fashion, and yet to offset the expected slow leakage through a check-valve, some contractors have tried installing motorized return valves in series with check-valves. In a given zone, a return-line motorized valve closes and opens simultaneously with the zone's steam-main motorized valve. The combination of a check-valve and a motorized valve in each return line has solved some problems of the type depicted by Diag. 2.

Help has come also from installing vacuum-breaker valves (or ordinary check-valves properly arranged) to avoid development of vacuum in radiators and steam mains when the flow of steam to a zone is cut off by the closing of the zone's motorized valve. In cases where the contractors had great luck, trouble of the kind shown in Diag. 2 has been ended completely through the use of extremely low steam pressure (ounces of steam pressure on the boilers instead of pounds) plus the installation of vacuum-breaker valves or check valves serving as vacuum-breakers.

To avoid depending on luck when planning new zoned-heat installations, and when trying to end the trouble shown in Diag. 2, use the orthodox one-pipe zoned-heat arrangement shown in Diag. 3. Properly installed, a condensate pump eliminates any possibility of backwards flow of boiler water through the wet or dry return lines of a zoned one-pipe steam system.

This article cannot give full instructions on planning conversion to zoning of already-installed one-pipe steam-heat systems. The article aims, rather, to warn of pitfalls that have trapped oilheating experts who regarded zoned-heat problems too lightly. Expert help from steam-heat experts, and experts at control and motorized-valve application, is needed by the typical oil-heating expert who is planning his first zoned-heat steam jobs.

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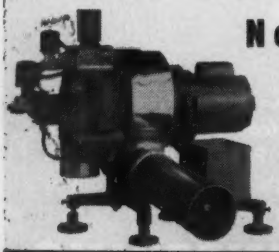

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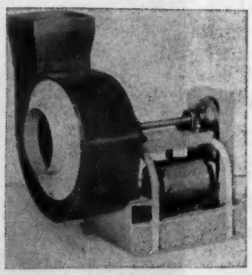

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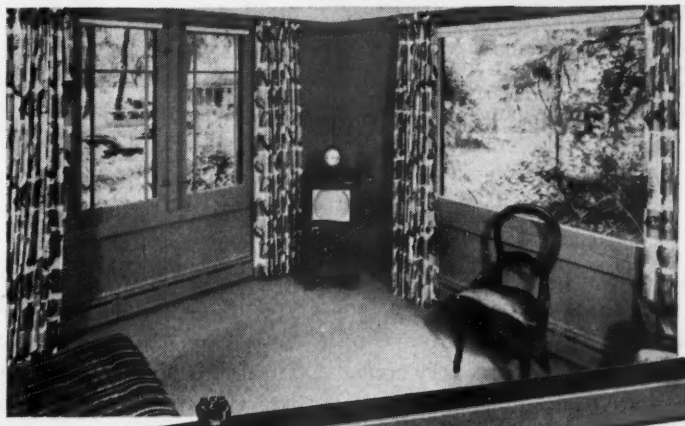

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OHI sets up two film Projects at Cleveland Directors Meeting

ONE OF THE MOST effective sessions in years was the Cleveland meeting of the OHI Board of Directors on January 18 and 19. Highlighting the activities was the adoption of two projects, one to train servicemen through a series of sound-slide films in color, and the other a 14-minute motion picture for public showings to demonstrate why oilheating is best.

The first undertaking, the sound-slide films, is being sponsored by the Domestic Education Committee within the Accessory Division. Individual accessory manufacturers will prepare these films to demonstrate the application and servicing of their products. The films will be objective and not of the sales type.

Each manufacturer helping in the program will provide at least two copies of his film and also donate a sound-slide projection unit. A film library will be set up in the New York office of the Distribution Div., under Charles Burkhardt, national secretary of the D. D.

A schedule of showings will be worked out with the numerous OHI Distribution chapters throughout the Country. Whenever the film of a manufacturer is to be shown he will be advised in time to have a representative present if he so desires.

At the Accessory Division meeting where this program was launched were 23 members and guests. Representatives of 10 of the companies present stated that their firms would supply films and projectors to the new library. The projection equipment is being furnished at cost by Webster Electric Co. The total outlay per manufacturer will run $500 to $700. It is most likely that another 20 or 30 manufacturers will participate.

Ben Wiechers, Webster Electric Co., is chairman of the Domestic Education Comm. The other members are A. W. Hundley, Steinen Mfg. Co., R. S. Dougherty, National-U. S. Radiator, K. L. Wilson, Minneapolis-Honeywell, Jack Searls, Penn Controls, Robert Gregory, General Filters, Ralph Dennis, Boston Machine Works, William Gaskell, Bryant-Carrier, C. W. Lang, Sundstrand Machine Tool, Maurie Eastin, General Controls, and Robert Gray, FUELOIL & OIL HEAT.

The manufacturers who agreed at this initial session to provide films and projectors were: Steinen Mfg. Co., Penn Controls, General Filters, General Controls, Minneapolis-Honeywell, Scully Signal, Sundstrand Machine Tool, Webster Electric, Eddington Metal Specialty, and Delavan Mfg. Co.

The second major project disclosed at the meeting and approved by the directors, the color movie for consumer showings, brought a very active discussion at the larger general meeting of directors and guests.

H. M. Spade, National Chairman of the Distribution Div., proposed the movie as a part of his regular report. The film, to be produced by Milner Productions, Baltimore, is to cost $15,000 and will be financed entirely by the Distribution Div. At the start, however, the expense will be underwritten by the Institute's treasury until the money is raised through the dealer channels. It is planned to have the first showings of the film at the annual OHI convention starting June 11.

A number of extra prints of the film are to be made, all in 16 mm size, for sale to local OHI chapters. Other copies will be available for rental from the Dist. Div. library.

In his report as Distribution chairman, Spade called on Hollis Albert, membership chairman of the Division who told of four new local chapters formed since the last directors meeting in September. These are Chatham County Fuel Oil Dealers of Georgia, OHI Chapter, South Carolina Oil Jobbers Assn., OHI of Delaware, and OHI Div. Indiana Independent Petroleum Assn. There was also an increase of 200 members in existing chapters.

The Division is being reorganized through the creation of eight geographic regions, each to have a chairman. Then there will be three vice-chairmen on a national basis. All of these, with the national chairman, will constitute the 12 Dist. Div. members on the OHI Board of Directors. All chairmen in future will be elected for one-year terms.

In opening the Board meeting following a luncheon at Cleveland's Carter Hotel, OHI president George Hochstein took occasion to congratulate the Accessory, Distribution and Commercial-Industrial Divisions for outstanding activity, which was much less notable in the Burner Manufacturing Div. Obviously, this last mentioned group has always been the central core of the Institute and perhaps for that reason is less spectacular.

Ralph Becker, in his report as managing director, gave a roundup of in-

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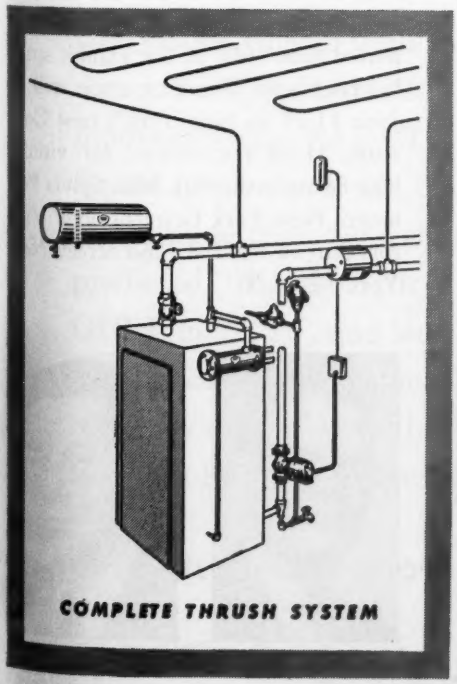

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dustry activities, got the Board to approve a contribution of $500 to the National Fire Protective Assn., another $1500 to the support of the Plumbing and Heating Industry's Bureau. Norman Radder, secretary of the Bureau, presented a report disclosing many examples of newspaper publicity he had secured for oilheating.

For the Market Research Committee Becker reported that subsequent data on factory shipments are to be further broken down into five capacity sizes for furnace and boiler units in addition to geographic distribution.

He estimated 1955 shipments of oilheating equipment, not including exports, at 815,000 or 7,870 off 1954. He then told of the activities of Operation Home Improvement, a national endeavor designed to get a lot of remodeling of old houses undertaken in 1956. The campaign slogan is " '56 is the year to fix." There was discussion of the Institute's donating $2500 to help the project, but decision was left to the Executive Committee, after further investigation.

Reporting for the Commercial-Industrial Div., Verne Resek said that the announced loss of 8% in 1955 shipments was confined to the larger gun type burners in the 6 to 35 gph range. The rotaries and other heavy-oil types were not down in shipments. He described the new Oilburner Standards of Underwriters Laboratories, on which two OHI Committees had done good work, and pointed out that they are generally approved.

The Commercial-Industrial oilburning course, now in its first season at Springfield, Mass., has 24 students, whereas facilities had originally been planned for 19.

New manufacturer Members

For the Membership Committee of the Institute, Dave Morgenthaler, chairman, disclosed the addition of four new members of the Manufacturing Div. . . . Delta Heating Corp., Trenton, N. J., Lincoln Furnace Co., Hawthorne, N. J., Rheem Mfg. Co., Chicago, and Reif-Rexoil Co., Buffalo, N. Y.

Five new members were added to the Accessory Div. . . . Soreng Products Corp., Schiller Park, Ill., Sid Harvey, Inc., Valley Stream, N. Y., Revcor, Carpentersville, Ill., Insul-Lyte Corp., Div. of Plibrico Co., River Rouge, Mich., and Crise Controls Div., ACRO Mfg. Co.

R. S. Bohn, Show Comm. Chairman for the 21st National Oil-Heat and Airconditioning Exposition, reported that 75% of the exhibit space has been sold. The Exposition will be June 11-15 at New York's new Coliseum. Hotel reservations for visitors may be made through Miss Sylvia Peltonen, New York Convention & Visitors Bureau, 90 East 42nd Street, New York 17, N. Y.

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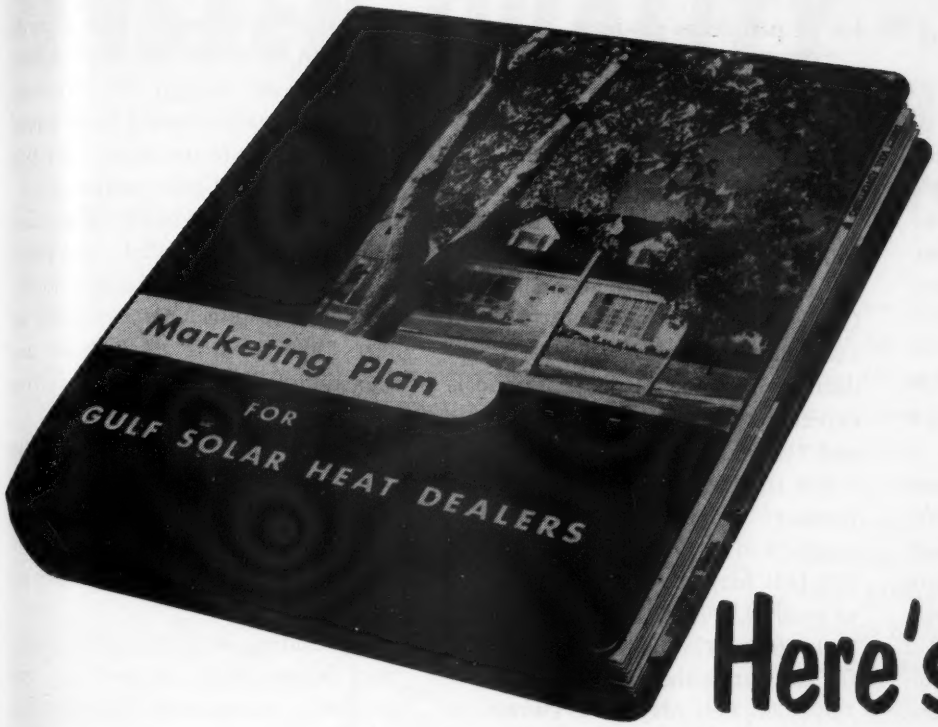

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New England Oilmen hold Meeting; Willetts speaks

THE ANNUAL winter get-together of the Independent Oil Men's Association took place on January 19 at the Hotel Statler, Boston. The formal program consisted of an afternoon membership meeting and an evening banquet at which Herbert Willetts, director and vice-president in charge of domestic marketing, Socony Mobil Oil Co., Inc., New York, was principal speaker.

Officers elected at the membership meeting were: Robert W. Carney, president; John L. Matthewman, Carl W. Blanchard, Robert L. Crawford and John J. Gill, vice-presidents; Richard L. Gardner, secretary and Mahlon W. Walker, secretary. Donal M. Sullivan continues as executive secretary.

Willetts in his talk dealt with four principal topics: Imports, the attacks on product prices, percentage depletion and natural gas regulation. Under the title, "1956—good year or bad?" he predicted an over-all increase of 4.1% over 1955 in domestic demand for all petroleum products.

"Distillate comparisons," he continued, "are affected by the weather aspect. However, due to the colder weather which prevailed in November and December, the average weather for the full year of 1955 in both the country and New England was for all practical purposes just about normal. Comparing the forecast for 1956 which assumed normal weather, with actual demand in 1955, distillate demand is expected to be up 6.3% nationwide and 7% in New England."

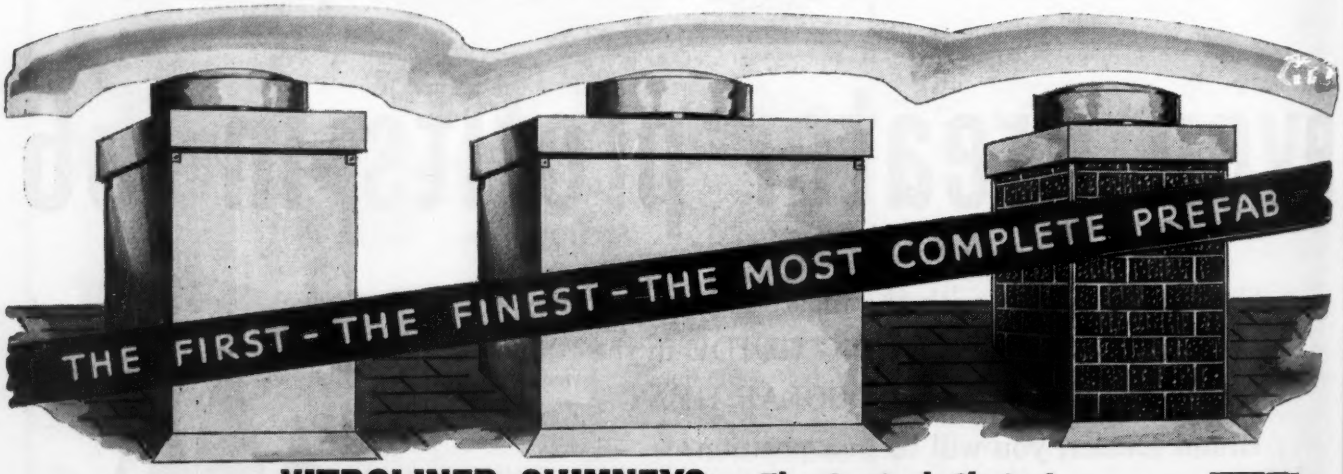
For the long term future, Willetts forecast: "Domestic demand for all oil products in 1955 was roughly 8,383,000 bbls./day. By 1960 we expect it to reach 9,700,000 and by 1956, 10,700,000 or 28% higher than 1955. As for distillates, the 1955 demand was 1,592,000 bbls./day. We estimate it will be 1,693,000 in 1956 and 2,250,000 in 1965, up 41% over 1955."

On the question of residual imports and crude oil imports, Willetts characterized attempts to restrict residual oil imports by legislation as efforts to restrict freedom of choice. He pointed out that if Congress had passed quota legislation, it would not have shifted supply from foreign to domestic sources, but rather would have forced some customers to use some other fuel when they would have preferred oil.

"The oil industry being highly competitive," Willetts stated, "its prices should be determined by competition." Any other arrangement inevitably reduces "the rewards of efficiency and thus dulls the incentive for further efficiency."

Willetts emphasized that the depletion allowance is not a subsidy but a recognition of discovery value. In fact, he said, it "is merely a means of treating oil production fairly in the tax laws."

Concluding, Willetts acknowledged that Socony-Mobil intends "to give continuing strong attention to distillate sales" and that he opposes natural gas regulation as "a precedent which could lead to a completely regulated economy." The simple economic question is "whether the price of a competitively produced commodity should be regulated in peacetime."



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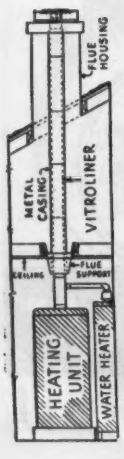

Vitroliner is not only the first and Pioneer Chimney but still the finest quality-built class "A" Chimney on the market for one and two story homes and buildings using all fuels.

The Architect has flexibility and choice. He can specify 2 types, "E" and "L" for basement or ceiling installations—3 Designs, as illustrated above—5 Diameters, for correct size—UL listed for 4 Fuels—oil, gas, coal and wood.

The Builder prefers lightweight Vitroliner (10 to 15 lbs. per ft.) which is easy to handle and quick to assemble.

The Home Owner enjoys a good looking modern design. His Vitroliner adds distinction to the appearance of his home. He also enjoys the safety and long life VITROLINER provides.

For quotations supply "X, Y" dimensions and roof pitch.

FOR FURTHER INFORMATION WRITE TO
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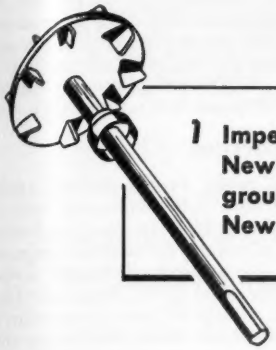
3511 W. POTOMAC AVE., CHICAGO 51, ILL.

Write for illustrated circular today.

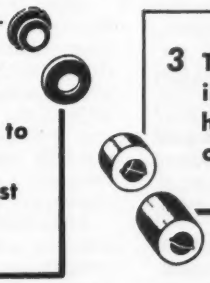
UNSEEN QUALITY - - -

IN SID HARVEY'S CIRCULATOR REBUILDING



1 Impeller refinished and balanced. New stainless steel shaft, centerless, ground to tolerance of .0005 inches. New seal housing pressed on shaft.

2 Seal is in two parts, both are new. The metal face is ground to flatness of 6 micro inches. Tested against 60' head pressure.



3 Two new bearings installed and honed to tolerance of .0005 inches.

4 New grease seal installed.

5 New spring and new impeller plate installed.

6 New gasket supplied.

7 Housing stripped down and cleaned.

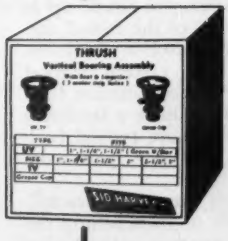
8 Grease cup cleaned, check valve replaced if defective, re-packed with high temperature water-proof grease.

You would never junk defective circulator Bearing Assemblies* if you could see how they are rebuilt by Sid Harvey, and how you could save by using them. You can see the rebuilding process by visiting Sid Harvey's Valley Stream plant, as visitors are always welcome. If you can't do that, ask anyone who has used Harvey Rebuilt Circulators. Over 4,000 rebuilt in 1955. You can see your savings by looking at Sid Harvey's 235 page catalog, where 51 different models are listed.

The pictures to the left show the steps where unseen quality is built into a HARVEYIZED Thrush Bearing Assembly. The motor is not shown, but it (as well as every major part used in Oil and Gas Burners) is rebuilt to original condition or better, regardless of whether or not it can be seen.

**A Bearing Assembly is a complete circulator less pump casting and motor.*

GOOD LOOKS — TOO
The appearance and the packaging of all Harvey Rebuilt Units is in keeping with the workmanship put into them and a compliment to your good service.



SID HARVEY INC.
VALLEY STREAM NEW YORK

NOW 40 SID HARVEY STORES TO SERVE YOU

OILHEATING MARKET REPORTS*

Lancaster, Penna.

THE AREA covered in this study is the whole of Lancaster County, Penna., in size 941 square miles and with a population of 246,700 at the start of 1955. In area, Lancaster County represents 2.07% of the state's total and in population 2.2%.

The earliest tally of oilheated homes in Lancaster County was the ration data of 1945. There were then 3,119 centrally-heated residences burning oil, or 2.2% of the state's total.

By the time of the 1950 Housing Census this had grown to 9,991 in centrally-heated one-and-two-family homes only. That was 3.3% of the whole state. Coming down to 1955 we identify 29,986 oilheated homes with boilers or furnaces, 4.6% of the state.

Oilheating in Lancaster County has done an obviously better job of growing in the past 10 years than has Pennsylvania as a whole. Gas heating, on the other hand, has not done so well. The county had 0.4% of the state in 1950 and 0.5% in 1955 in centrally-heated homes burning gas. Coal has taken a serious drubbing, perhaps the worst we have found in our studies so far. Here is a five-year comparison based on centrally-heated one-and-two-family homes:

	1950	*1955*
Coal-heated homes	24,846	10,900
Gas-heated homes	1,288	2,686
Oilheated homes	9,941	29,986

The big gain was in oilheating and most of that was in conversions from coal. The estimates show that five-year conversions numbered 13,400 while new home installations were about 6,645, both referring to oil. Gas had an estimated 963 conversions from other fuels and 435 new home jobs.

Lancaster County has been a surprise to the student of oilheating. It has had no national publicity for conspicuous performance among its dealers in late years . . . most are fairly small dealers . . . yet these figures demonstrate phenomenal progress. There has undoubtedly been some promotional influence through having two good oilheating equipment manufacturers, Herco and Penn Boiler, in the city of Lancaster.

In addition to the 29,986 oilheated residences there are in the county about 1,800 small commercial heating users of No. 2 oil, fired by the typical domestic-style oilburner. Thus the total of such customers for the fueloil men is 31,786.

Competitive Fuels

Hand-firing sizes of anthracite sell in winter at $20.50, which is equal to 7.8¢ a therm of 100,000 Btu. Stoker sizes of this fuel cost $14.40, or the equivalent of 5.8¢ a therm.

Straight natural gas of 1,040 Btu per cu. ft. when heating the average home costs 12.4¢ a therm. To arrive at this average we took the bracketed-rate structure, deducted 25 therms a month for typical domestic uses and calculated the balance as heating. The quantity for heating was based on the Btu equivalent of the market's typical fueloil consumption by residences.

Fueloil, No. 2, at the winter rate of 14.2¢ a gallon comes to 10.1¢ a therm. Gas, then, is 23% more costly than oil for heating on a Btu basis.

Fueloil Distribution

We saw that the county had during the 1954-55 season an average of 31,786 users of No. 2 oil for heating. Their typical consumption including the small commercial accounts as well as residential was 1,527 gallons. The amount of this oil used for heating then was 48,552,000 gallons.

The season was approximately 5% warmer than "normal" in Lancaster so the actual demand, after the weather adjustment, could be considered as 51,107,000 gallons or 1,217,000 barrels.

About 80% of this product is brought into the market by the major companies and 20% by independent suppliers, mostly tanker terminal outlets from Philadelphia.

At the retail or tank wagon level the major companies do a very large ratio of the total volume for an eastern market. The group of major and independent oil men who assisted in this analysis has estimated that majors here do 42% of the volume, the independent fueloil distributors the same percentage and the independent terminal suppliers 16%.

When the oil men were interviewed on the question of how many independent fueloil distributors have no bulk plant but rather load at another's racks the composite estimate was 38% of such companies. Their total gallonage represents 30% of the whole demand of the territory.

On the point of delivery refinements we learned that 79% of all users of No. 2 oil for heating rely on automatic deliveries and 73% of them have their supply tanks fitted with VENTALARM fill signals. Only 14% of all customers enjoy the use of budget monthly payment plans for their season's fuel, which is fairly typical of the East. The Midwest generally does better on this point.

Market Concentration

There are 72 companies, including majors, selling fueloil at retail in Lancaster County and they operate a total of 133 trucks. That is fewer than two trucks to a company, the lowest ratio we have found anywhere. The largest operator (not a major) has eight trucks in this service; next we find two companies with five trucks each, two having four trucks each, and ten with three trucks per company.

Twenty companies turn up with two trucks each and 37 have one fueloil truck each. So we find 79% of all companies having either one or two trucks and they operate 58% of all the trucks in the market.

It is the highest ratio of small companies found in the 20 areas studied up to now, with Boston the only other market where a majority of all trucks were owned by the one-two truck sized operators.

The pattern is beginning to shape up at this point. We find 47% of the fueloil distributors also in the gasoline business, against the more typical eastern market average of around 15%. Combination fuel-oil and gasoline "jobbers" have a tendency to run smaller than the more typical fuel-oil distributor with only one petroleum loyalty.

We discover 14% of the companies selling coal and only 33% of them selling oilheating equipment, another unorthodox statistic for this part of the country.

Oilheating equipment Sales

Fueloil companies in the past year sold 35% of all new oilheating installations, in the composite opinion of the 28 key marketers who know the area extra well and helped us to reach many of the findings set forth here. They find plumbing or heating companies getting 41% of the new oilheating installations and the burner service specialists the remaining 24%. Our consultants agree that oil men are gaining in their share of the new equipment market, voting on this point in a ratio of six to one.

Oilburner Service

This was pretty evenly divided among the three groups just mentioned, with oil companies doing 38% in the past heating season, the plumbing or heating companies 33% and the specialized burner service companies the other 29%. Again our helpers voted in a ratio of four to one that oil men throughout the county are taking more and more of the service responsibility.

About 38% of the oilheated families in the county buy yearly service contracts for their oilheating. If parts replacement is included in the contract the average charge is $25; without parts it runs $18. Another 20% of the users arrange for annual clean-ups and tune-ups of the burner and are typically charged $13 for this job. Those rates are a trifle strong for the size of the community but otherwise about in line.

Individual call charges, where there is no contract, are lower than average. If an oil company is doing the work its minimum is $3.40 and the minimum for other service departments is $3.63. These are surprisingly lower than the York market, only 40 miles away.

Advertising Promotion

Major suppliers have done a moderate job of advertising oilheating in Lancaster County, say 16 of the 28 men who helped us with their opinions. Eight of the men felt they had done quite a lot and four gave them credit for very little.

Apparently two-fifths of the independent marketers have done a recognizable job of advertising of their companies and services. They spent for this an average of $1.91 per existing account, which is particularly healthy. If they think in terms of a ratio to gross sales volume, they spent for advertising 1.2% of their billing.

Cooperative advertising in this market has just gotten well under way. In 1954 they spent as a group $1,888 and in 1955 up to the time of the visit had arranged for $2,000.

Typically, they had cards in the buses, bumper strips for trucks and company employees' cars, a booth at the home show. Their newspaper advertising in the *Intelligencer-Journal* was classic for value gained. For $100 they could buy a 322-line ad, size about 7 x 12 inches, and make an attractive presentation. Then the individual companies in the market would use surrounding space, mixed with some editorial text, and increase the impact many fold.

A recommended basis for cooperative oilheating promotion has been set forth in which retail business contributes to the central fund $250 annually per million gallons sold and wholesale $150 a million.

Complete participation would provide about $16,000, but in a market having so many small companies, often hard to reach, only about $10,000 could be expected at the start. That much is needed to do a job.

Mr. J. Raymond Stewart, 8 N. Bausman Drive, Lancaster, is secretary of the Lancaster Conference, Oil-Heat Association of Central Penna.

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Space contributed by FUELOIL & OIL HEAT

Readers' Problems

Q. Recently our fire department revised the ordinances pertaining to the installation of oilburners. Since that time many installers have suggested items of protection that should have been included in the new requirements. If your organization publishes installation hints or recommended practices would you please include our bureau in such mailings?

L. T. W., ——, N. J.

A. In such a situation as you describe, dozens upon dozens of ideas about oilburner safety are bound to be presented to you. Wisdom and practical oilburner knowledge are needed on your part to enable you to decide which of these ideas are worthy and which are amateurish or downright silly.

Aiming for maximum safety, some cities have set up requirements of freak nature—or at least having one or two freak features. Other cities have tried exceedingly rigid requirements and have encountered inspection and enforcement difficulties as the result.

We do not send out mailings of the installation hints and recommended practices, which you ask about. However, much of the information contained in our reprint booklet, "Installing the domestic Oilburner," should prove helpful in establishing installation standards.

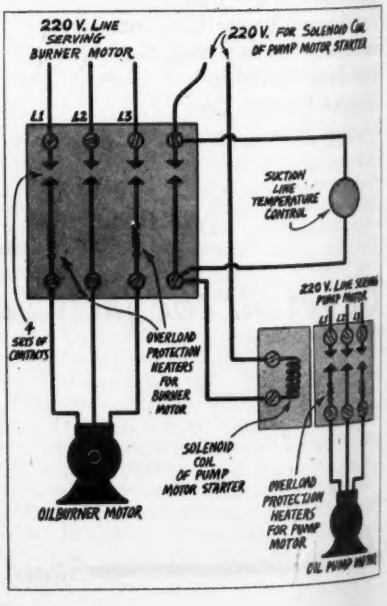
Q. In the March 1955 issue of FUEL OIL & OIL HEAT *magazine, Diag. 2 on p. 88, you show a booster pump hookup for an installation using No. 6 fueloil.*

Please send me a wiring diagram that permits running the booster pump when the oilburner is idle. Thanking you in advance.

R. W., Providence, R. I.

A. The accompanying wiring diagram meets the requirements of many usual-type installations which have three-wire polyphase motors for their oilburners and booster pumps.

Study this diagram yourself, if you know the A-to-Z of wiring commercial-industrial installations—or if you rely on an electrician for wiring your big jobs, have him study the diagram.


220 V. LINE SERVING BURNER MOTOR
220 V. FOR SOLENOID COIL OF PUMP MOTOR STARTER
L1
L2
L3
SUCTION LINE TEMPERATURE CONTROL
4 SETS OF CONTACTS
OVERLOAD PROTECTION HEATERS FOR BURNER MOTOR
SOLENOID COIL OF PUMP MOTOR STARTER
OILBURNER MOTOR
OVERLOAD PROTECTION HEATERS FOR PUMP MOTOR
OIL PUMP MOTOR

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These completely new fuel units have an improved, **SPECIAL COMPOSITION DIAPHRAGM SEAL,** developed exclusively for Webster, which **DOES NOT SHRINK, SOFTEN OR HARDEN IN FUEL OIL.** It **CANNOT BE DAMAGED BY PRESSURES NORMALLY ENCOUNTERED** in the field.

Webster's $\frac{5''}{16}$ **SHAFT** allows **MINIMUM SEALING DIAMETER.** Small surface gives a secure seal with light spring loads—reduces power consumption. The **LIFETIME-LUBRICATED** outboard seal bearing is **SELF-ALIGNING**—furnishes properly placed support to prevent coupling whip being transmitted to the seal.

These and many more advanced design features in Webster's new Series 8000 Unit all add up to **MORE RELIABILITY, LONGER TROUBLE-FREE OPERATION.** Write for Bulletin A8A2 for the complete story.

Similar fuel-units are made for sale in Canada by Canadian Acme Screw & Gear, Ltd., of Toronto under license by Webster Electric Company

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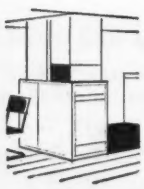

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All-new design . . . built from the ground up! The result of over 2 years engineering and development by Janitrol's famous heating research laboratories.

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All sizes shipped from factory completely assembled.

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Complete set of controls furnished with each furnace include thermostat, blower and limit control, primary control, and draft control.

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Whenever desired after city gas is available, with installation of A.G.A. listed Janitrol (Model JH) conversion burner.

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WINTER AIR CONDITIONER LINE

. . . with "WAY-OUT-FRONT" features, performance and economy to put you "WAY-OUT-FRONT" in sales and profits! MODELS AND SIZES TO MEET MOST WARM AIR FURNACE NEEDS!

Now—there's a *big* difference in oil-fired furnaces. It's the all-new line of Janitrol winter air conditioners. And it brings to the oil-fired field the same famed quality and advanced engineering that's kept Janitrol first and foremost in gas heating equipment. *This* is quality you can *see* in precision construction; quality you can *hear* in new quiet operation; quality you can *trust* for more satisfied customers, fewer service headaches and call-backs. All models are compact and good-looking, designed for easy installation and quick, easy conversion to gas. Ask your Janitrol representative for full details on the BIG J-Line. Or mail the coupon to us. No obligation, so do it today.

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- ✓ *Compact, Insulated Cabinet* — combines smart styling with compact design. Insulated to keep outside surfaces comfortable to the touch, insure greater quietness of operation.
- ✓ *Air Filter*—Adequate capacity for effectively removing dirt, dust, lint, pollen.
- ✓ *Janitrol Fully-automatic Control System*—provides more uniform heating, greatest economy, with maximum safety under *all* conditions.
- ✓ *Prefabricated Wiring Harness*—simplifies installation, keeps profits up.

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In Canada: Moffat Heating & Air Conditioning, Division of Moffats Ltd., Toronto 15

Join up with ®Janitrol

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Gentlemen: Please send me complete information on the new Janitrol oil-fired winter conditioner line and profit opportunities for dealers.

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fueloil & oilheat

Any man capable of wiring commercial-industrial oilburner installations should be able to make sense from this wiring diagram. Understanding it permits applying its principles to other installations, wired differently than the diagram assumes your job is wired.

At the upper left in the diagram, a 220-volt line provides input current for terminals L1, L2, and L3 of the magnetic starter and overload protector which serves the polyphase oilburner motor. For simplicity, the solenoid coil of this motor starter is not shown. However, this coil is wired of course to the controls that start and stop the burner motor.

Whereas but three sets of starter contacts are needed for the oilburner motor, this starter has a fourth set of contacts, the right-hand contacts in the drawing.

This fourth set of contacts, a spare set as far as the burner motor is concerned, must be isolated electrically from the other electric units in the starter. The drawing shows these contacts connected to only two terminal screws. You arrange this carefully when you set up the wiring.

Two wires provide 220-volts for the solenoid coil of the pump-motor starter. They are labeled at the upper right of the drawing.

When the burner motor should start, the four sets of contacts in its starter snap closed. The three sets at the left (L1, L2, and L3) start the burner motor. The fourth set, at the right, gives current to the solenoid coil of the starter serving the pump motor.

Thus starting the burner motor causes the pump motor to start.

Consider the oilburner motor idle because the contacts of its starter are open. Now you can start the booster pump by the suction-line temperature control shown in the drawing, which is wired in parallel with the fourth set of contacts in the starter which serves the burner motor.

Following the ideas of the article in the March 1955 issue, you can locate the temperature control in the suction line of your installation and set it at about 90°F. Then when the suction-line temperature drops below 90°F. while the burner is idle, the booster pump will start. It will continue to run until fueloil has been circulated to the degree of raising the suction-line temperature above 90°F.

Continuous operation of the booster pump was mentioned in the original article on this subject. You can arrive at this by installing an on-off switch wired in parallel with the suction-line temperature control. Or you can arrive at it simply by setting the suction-line temperature control all the way up, say at 180°F.

With this control set as high as 180°F. the booster pump will run continuously—simply because the control's switch will remain "on," since the suction-line temperature never will become as high as 180°F.

Notice the solenoid coil of the pump-motor starter is shown in a separate box, next to the starter which has three sets of contacts. That's to emphasize the fact that this solenoid coil is isolated electrically from everything else in the starter. The coil is connected to only the two terminal screws in the drawing.

As in all work which involves poly-

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NATIONAL HEATING & AIR CONDITIONING SHOW TORONTO

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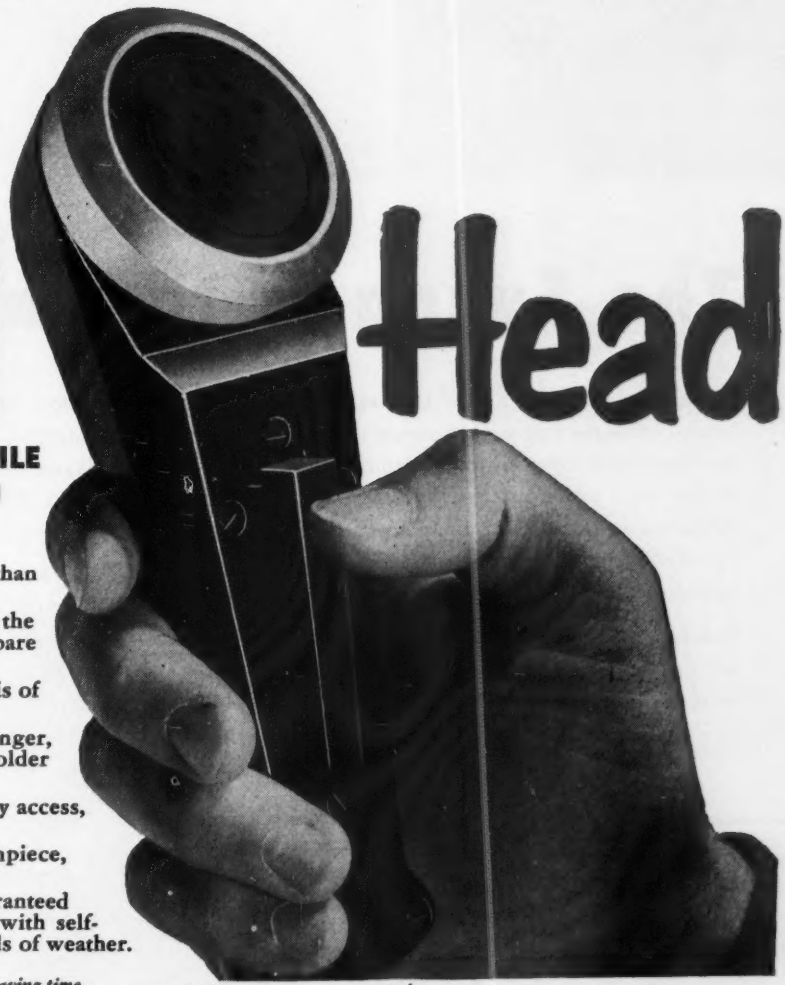

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- **Easy to grasp and hold.** Designed to fit the hand . . . left or right, small or large, bare or gloved. Slip-proof grip.
- **Easy to use.** Positive-action bar switch is of ample length, sturdy and convenient.
- **Easy to hang.** Clips easily into metal hanger, as standard equipment. Rubber cup holder also available, if desired.
- **Easy to service.** Case design assures easy access, simplifies servicing.
- **Distinctive appearance.** Plexiglas mouthpiece, rimmed with aluminum.
- **Built to last.** High-impact Bakelite, guaranteed against breakage for 5 years. Switch, with self-wiping contacts, stands up in all kinds of weather.

Your communications system is only as efficient, in saving time and earning profits, as its components. Look for these marks of quality found in RCA 2-Way Radio: Superior crystals and tubes for clearer talking, longer operation . . . heavy-gauge steel case for rugged service . . . advanced engineering for greatest satisfaction . . . color-coded tuning for simplest maintenance.

"Mark of Quality"

RCA

DISPATCHER — 2-WAY RADIO — TO DRIVER

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COMMUNICATIONS PRODUCTS
CAMDEN, N.J.

Radio Corporation of America,
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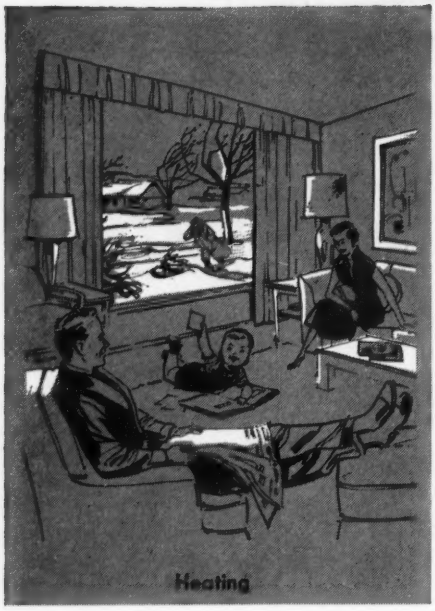
☐ Please send me complete information on the use of 2-Way Radio in....

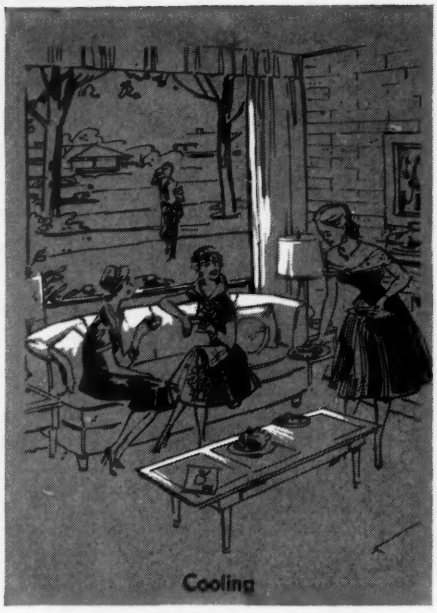
.....

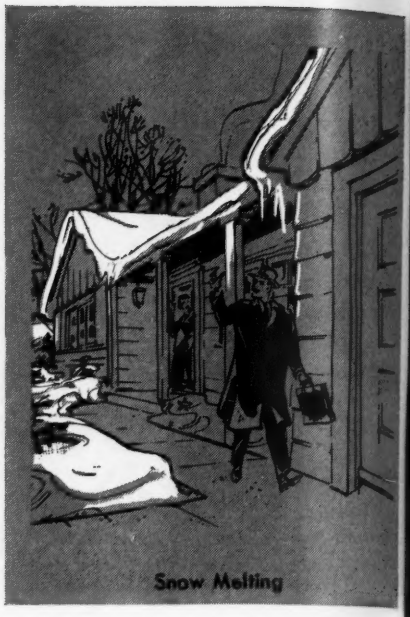
☐ Have RCA Communications Specialist make a free RADIO SURVEY of my business.

Name.....Title.....
Company.....
Address.....
City.....Zone.....State.....

fueloil & oilheat





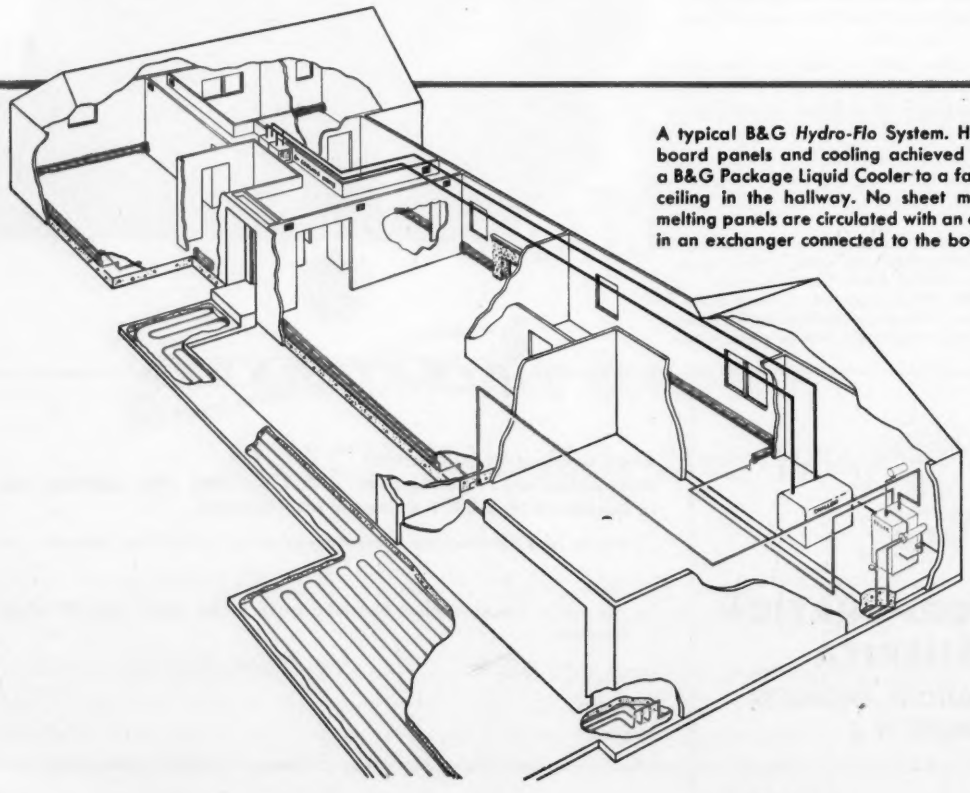


The Swing is to Water... because only wa

To builders in every income bracket, the B&G *Hydro-Flo* System offers the comfort, convenience and economy benefits obtainable only with mechanically circulated water. Money can't buy finer... yet even the small home builder can afford it, because the B&G *Hydro-Flo* System is *amazingly flexible* in application. *The builder can start with better heating and add other Hydro-Flo features as his budget permits.*

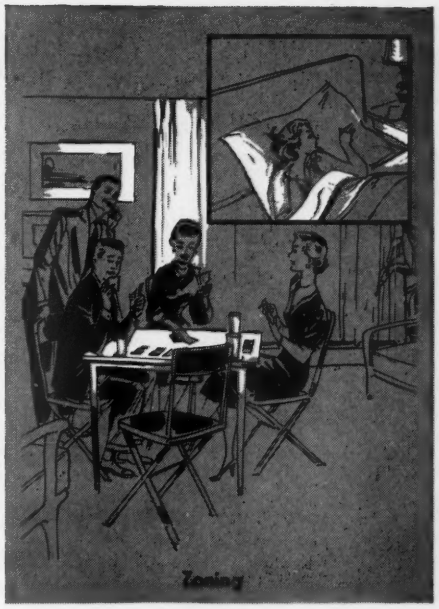
The basic *Hydro-Flo* Forced Hot Water System provides radiant, sunny warmth—assures warm floors—draftless rooms. Automatic modulation of the heat supply keeps indoor temperature constantly at the comfort level—prevents wasteful overheating. A limitless supply of *low cost* hot faucet water is always ready, heated by the same boiler that heats the house... no space-wasting, separately fired water heater needed.

Summer cooling—*with water as the cooling medium*—can be added at any time in a choice of several ways. Snow melting equipment, too, for relief from back-breaking labor. And don't forget that the B&G *Hydro-Flo* System is virtually a lifetime installation—no frequent repairs and replacements.



A typical B&G *Hydro-Flo* System. Heat is provided by baseboard panels and cooling achieved by circulating water from a B&G Package Liquid Cooler to a fan-coil unit over a dropped ceiling in the hallway. No sheet metal ducts needed. Snow melting panels are circulated with an anti-freeze solution heated in an exchanger connected to the boiler.

Hot Faucet Water



Zoning

water offers **All Five!**

THE B&G BOOSTER

...key unit of the B&G *Hydro-Flo* System

Engineered for compactness, *silent* operation and years of service, this electric pump circulates water for heating the house in winter, cooling it in summer and for snow melting panels. It is built with precision manufacturing methods which translate good design into superior product... permit mass production with custom-built quality.

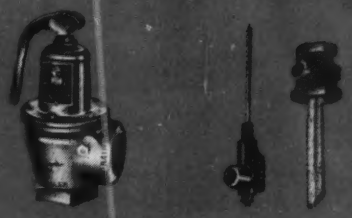
The B&G Booster has a solid reputation for *quiet*, dependable and long-lived operation. *That's why over two million units* have been sold to date!

B&G *Hydro-Flo* PRODUCTS

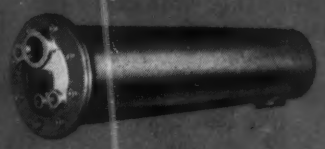
for heating and cooling with water

B&G Flo-Control Valve

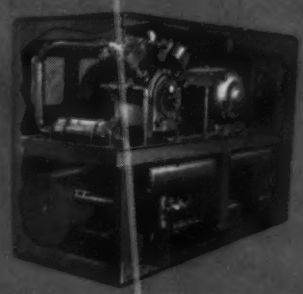
B&G Monoflo Fitting



B&G Relief Valve B&G Airtrol System



B&G Water Heater



B&G Package Liquid Cooler

BELL & GOSSETT

COMPANY

Dept. EF-7, Morton Grove, Illinois

Canadian License: S. A. Armstrong, Ltd., 1400 O'Connor Drive, W. Toronto, Canada

*Reg U.S. Pat. Off.

fuel oil & oil heat

phase wiring, the electrician doing this wiring must avoid "crossing phases" or "mixing phases" when planning his two-wire control circuits.

Q. We have a fueloil-consuming church account who have been normally operating their heating system two and one-half days per week.

They recently installed an expensive pipe organ and will give consideration to heating during the entire week.

They would like to know the approximate increase in the cost of fuel on this latter basis.

We will greatly appreciate any information that you can give us on the above matter.

H. J. E., Iowa City, Ia.

A. We believe that in your city heating plants are designed for temperatures of about 15° F. below zero. Temperatures 10° F. or 15° F. colder than this may be expected on coldest winter days.

With reference to these temperature conditions, your problem does not involve past heating of the church on a basis of (a) two and one-half days per week with church indoor temperature of about 70° F.; and (b) four and one-half days a week with the church indoor temperature equal to outdoor temperature—with the result that there is no heat loss, no flow of Btu's from inside the church to outdoors, on these four and one-half days.

During the four and one-half days each week when the church was "not heated," actually its indoor temperature was considerably above the outdoor temperature. Heat lingered on in the church following the time the heating plant was turned off. Sun heat may have been a factor when the church was not occupied.

Thus it is wrong to figure the church in the past was heated 60 hours a week, in the future will be heated 168 hours a week (7 x 24) therefore will in the future use 2.8 times more fueloil than it used in the past. That 2.8 results from dividing the 168 by the 60. That 60 is, of course, the number of hours in two and one-half days.

The church will not use 2.8 times as much fueloil as was used in the past, on the basis of starting to heat it seven days a week—it won't use 280% of the fueloil it used in the past.

Much depends on the construction of the church (how well it holds its temperature after the heating plant is turned off), the heating plant characteristics, sun-heat which has been mentioned, and additional factors which your letter does not cover. We believe it's a safe bet that in the future, with the church heated seven days a week and to only moderate temperatures of 60° F. to 65° F. when it is not occupied, the church may need only 150% of the fueloil it needed in the past when heated only two and one-half days a week. As a maximum, it won't need twice as much oil as it has used.

Q. Converting a burner from No. 5 to No. 6 fueloil, I need to know the kilowatts of an electric oil heater to raise the temperature of 42 gph of No. 6 oil from 80°F. to 130°F. for cold starts.

B. S. V., La Salle, Ill.

A. One supplier of electric heaters

Sheared to Size—Less Scrap
Save Time—Cut Costs

The *right* steel makes all the difference in your oil heat combustion chambers. That's why it pays to use Ingersoll *heat-resisting stainless* steel!

It's easy to fabricate—because it has exceptional forming qualities.

It withstands high temperatures—because its analysis is correct.

It's uniform in quality—because Ingersoll specializes in producing this type of steel.

It comes to you sheared to your specified blank sizes, or multiples thereof, depending on size—so it saves you time, money and scrap.

Specify Ingersoll—and profit by the difference!

Write, wire or phone for details

INGERSOLL STEEL
B-W
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Ingersoll
STEEL DIVISION
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310 S. Michigan Ave., Chicago 4, Ill.
Plant: New Castle, Indiana

"Best bet for profits on home building this spring"

new

Mueller Climatrol Combination year-'round air conditioner

IT HEATS! IT COOLS! This compact, competitively priced Mueller Climatrol packs sales-winning magic. Just what you need to blast off your share of profits in the home building season ahead.

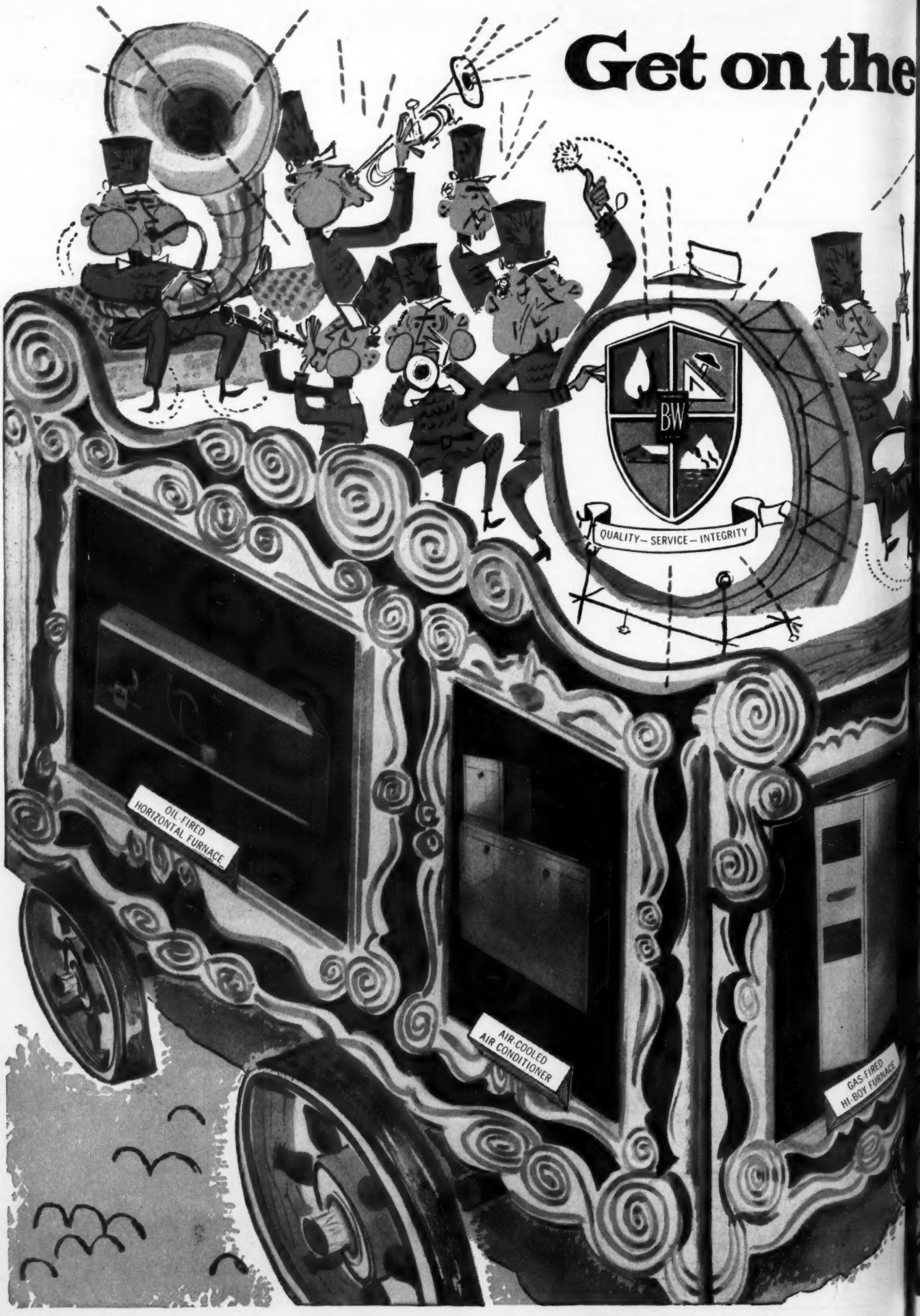
IT'S A FACT! Year-'round air conditioning has irresistible appeal. Prospective home-owners respond to Mueller Climatrol quality. They go for the economy of possible *step-at-a-time* installation. Start with just the heating unit, combination casing and ductwork . . . add cooling later.

THE SIZE IS RIGHT! In heating, it's 110,000 Btu input with gas or oil. Choice of 2 or 3 hp cooling. Cooling may be ordered less the high side for air cooled applications. Unit is 60⅞" high, 47⁵⁄₁₆" wide, 28½" deep. Installation is easy — just as you'd expect with any Mueller Climatrol.

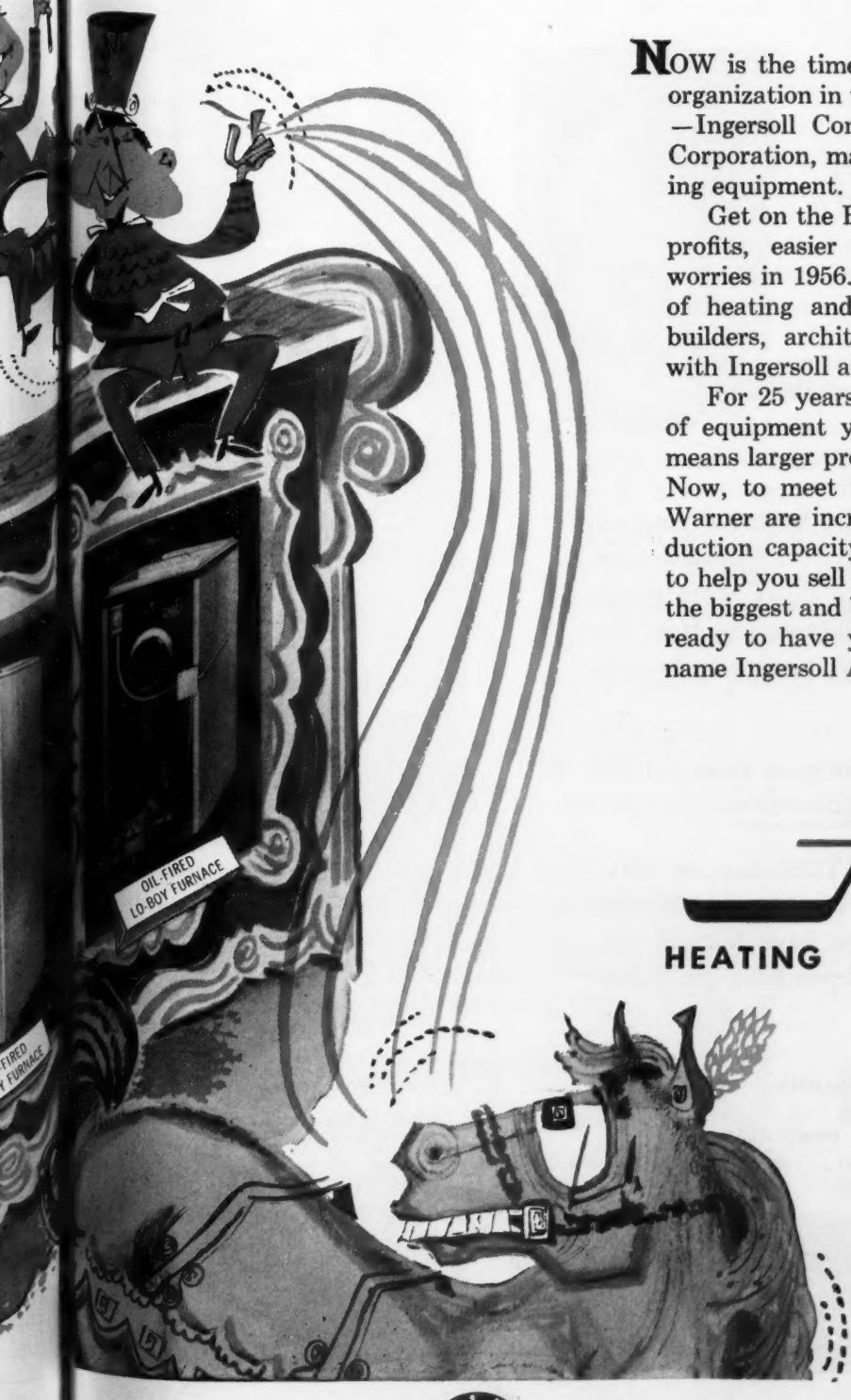
Write today for all the facts — selling features and specifications. Mueller Climatrol, 2050 W. Oklahoma Avenue, Milwaukee 15, Wisconsin.

Mueller Climatrol

. . . sales are turning greener every day


Get on the
BW
QUALITY—SERVICE—INTEGRITY
OIL-FIRED
HORIZONTAL FURNACE
AIR-COOLED
AIR CONDITIONER
GAS-FIRED
HI-BOY FURNACE

Borg Warner Band Wagon



NOW is the time to join the fastest-moving, growingest organization in the heating and air conditioning industry —Ingersoll Conditioned Air Division of Borg-Warner Corporation, manufacturers of Airline heating and cooling equipment.

Get on the Band Wagon early for a ride to increased profits, easier installations, and fewer maintenance worries in 1956. You'll be in the company of thousands of heating and air conditioning contractors, dealers, builders, architects who are already marching along with Ingersoll and Borg-Warner.

For 25 years Ingersoll has been giving you the kind of equipment you want to install . . . the kind that means larger profit margins and greater success for you. Now, to meet increased demand, Ingersoll and Borg-Warner are increasing plant facilities, buying new production capacity, and engineering new units and ideas to help you sell more. The next few years promise to be the biggest and best show on earth—so make sure you're ready to have your next installations carry the magic name Ingersoll Airline, Borg-Warner.

Airline

HEATING AND AIR CONDITIONING

INGERSOLL CONDITIONED AIR DIVISION

INGERSOLL B-W AIRLINE

BORG-WARNER CORPORATION

for No. 6 oil instructs that you should figure 1,000 watts applied for an hour to his heaters raises the temperature of 6 gph of No. 6 fueloil by 100°F. On that basis, you need heater input of 3,500 watts. Play safe and install a 4,000 or 5,000 watt heater.

Q. On p. 130 of your September issue, in your commercial-industrial section, a consulting engineer aims to be rigidly critical and exacting but speaks of No. 6 oil installations which produce suction-line vacuums as high as 22". In view of the facts that many heavy-oil experts design for suction-line vacuum no higher than 10", and of the availability of electric heating systems for suction lines to keep them as warm as is desirable during "off" periods, why does this consulting engineer speak favorably of 22" suction-line vacuum?

E. N. S., Brooklyn, N. Y.

A. Consulting engineer's answer: "My big point was that I know of double-pump burners which use No. 6 oil and actually operate splendidly though at times they develop such high suction-line vacuums. I argued only against suction-line leaks, the result of failing to test suction lines mercilessly under high air pressure, which would cause trouble at times when high suction-line vacuum is necessary to get certain burners started. "I don't know any engineer who would engineer for normal-operation suction-line vacuums as high as 22". Certainly I don't look for such high vacuums during normal operation. But, especially on jobs involving double-pump burners, I think now it is good practice to expect normal-operation vacuum readings above 10" at pump inlets.

"I think the heavier and heavier No. 6 fueloil, and the improved pumping of horizontal rotary burners of truly modern design, cause many of us to be satisfied with jobs that show up to 15" or 16" pump vacuum during normal operation."

Q. I can't look down into the firebox of this small, modern furnace, fired .85 gph. But for a minute or so after the burner stops with its refractory firebox hot, through the little 2" diameter peekhole I can see the light given by oil that continues to burn. A solenoid valve in the nozzle line made sure of no leaky shut-off valve in the fuel unit, but did not stop the afterburning. I want to stop it because it's not right and soots up the flues excessively.

H. L. H., Montreal, Canada

A. You should use a special, narrow flame-mirror, made to go through such a small peekhole. Find out where the fire is burning after the burner stops. If it's burning on refractory that became oilsoaked while the burner was running, switching to a new nozzle or adjusting the burner's gun-tube air-handling parts may end the trouble.

If it's burning around the end of the gun tube, the oil spray from the nozzle is striking the air-handling parts at the end of the gun tube while the burner is running. Wet with oil when the burner stops, these parts produce the afterburning.

Q. Getting ready to handle summer conditioning equipment as well as furnace-duct heating systems, I face a problem I've seen mentioned but not

- When you buy Filters you are buying Protection . . . money-saving protection . . . against fouled points, clogged nozzles, stuck floats, worn pump bearings and all costly troubles arising from the microscopic impurities always present in heating oils.
- The Filter that saves you the most money is the one that gives you the most protection.
- There are more FULFLO FILTERS than any other make on the Oil Burners of America because so many Dealers everywhere have learned that FULFLO gives the most dependable protection obtainable.

Only Fulflo Filters use genuine Honeycomb Filter Tubes. True depth filtration . . . every drop of oil filtered again and again . . . always dependable.

COMMERCIAL FILTERS CORPORATION
MELROSE 76, MASSACHUSETTS

Why buy a truck in the dark?

"Oh, kick me!" cries Merchant Neal,
In a posture hardly genteel.
He bought trucks in haste,
Then the costly fact faced,
That he'd missed the Dodge Dealer's Deal!

If you buy a new truck after looking at only one make, it's like making a deal in the dark. A smarter way to buy is to "*spotlight*" *real truck* value—weigh and compare competitive claims with these Dodge truck facts:

Most standard V-8 horsepower of all leading makes—½-ton through 3½-ton range. You'll make faster trips—get more work done!

Shortest turning radius. You'll maneuver in traffic, and park more easily.

Biggest cabs, with biggest wrap-around windshield. You'll enjoy more comfort, safer vision.

Highest payload capacities . . . pick-ups providing up to 22% more payload than others.

Prices down with the lowest.

Next truck you buy, don't deal in the dark. Turn a bright light on the facts. See Dodge before you buy.

GET THE DODGE DEALER'S DEAL BEFORE YOU DECIDE

DODGE
Job-Rated
TRUCKS
WITH THE *FORWARD* LOOK

fueloil & oilheat

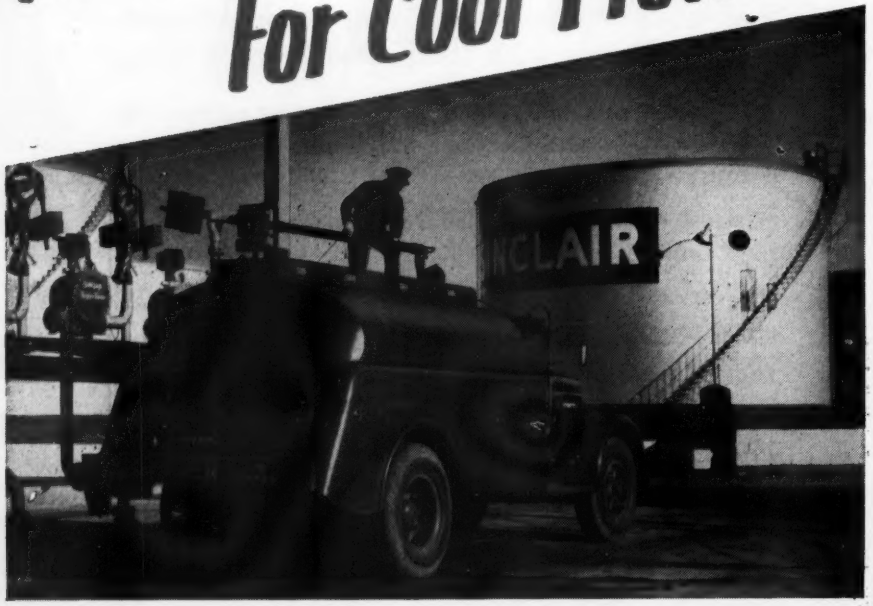
solved in your pages. The summertime cfm has to be much greater than the wintertime cfm. What do I do about that (a) on an installed forced-air furnace, and (b) on a job that's brand new throughout?

J. M. S., Gilman, Ill.

A. For installed furnaces, speeding up the circulating blower often solves the problem of providing sufficent cfm for summer conditioning—figuring 400 cfm for each ton of refrigeration may do the trick for you. But use instruments. An air-flow instrument assures you of proper cfm. An ammeter is needed to tell you if you are overloading an installed motor and should replace it with a motor of greater horsepower.

Use the higher cfm only for summer; reduce the cfm in fall, to the proper level for maximum heating comfort. The manufacturer from whom you will buy your summer conditioning equipment will give you additional details. That applies also for brand-new systems; follow instructions obtained from the manufacturer.

A Warm Friend For Cool Profits!



You make a *warm friend* when you switch to Sinclair SuperFlame Fuel Oil – a friend to help you win *many more* friends . . . by building customer good will.

Sinclair SuperFlame builds good will because it offers anti-rust protection at no extra cost. SuperFlame contains Sinclair's exclusive rust inhibitor, RD-119®. Used regularly, this top-quality fuel oil protects against rust-clogged filters and burner nozzles. Result:—fewer service calls and *greater customer satisfaction.*

To build good will – and *boost profits,* switch to Sinclair SuperFlame Fuel Oil *today.* Write Sinclair Refining Co., 600 5th Ave., N. Y. 20, N. Y.

SINCLAIR
FUEL OIL with RD-119®
SO DIFFERENT – IT'S PATENTED

ANTI-RUST Super Flame

Q. Enjoyed your November issue article, "Service Calls I Remember," for felt I was looking over the shoulder of the author as he worked on broken down big jobs. Gave me, a domestic burner serviceman, an idea of what I'll get into when—and—if I advance to working on commercial-industrial jobs.

As I read article the second time, I jotted down these questions, which I would have asked J. W. Schulz if I'd been on those trouble jobs with him:

1. You put too-tight belts on that 120 gph burner, but how could you reason in a week the belt tension would be perfect when it wasn't to start out?

2. You said "Here she goes!" to the superintendent, then closed two switches to start the burner. Why did you close two switches, not just one?

3. You say a motor with borderline damage often can be run in an emergency. How for example can that be done?

4. When you switched from ordinary fuses for the motor to time-delay fuses, didn't you lessen the protection given the motor from burning out in case it fails to start or overloads?

5. To avoid great air leaks given by a bad, leaky vacuum gage, why not fill bottom pipe opening of vacuum gage with solder, then drill just a pinhole through the solder?

G. S. W., Hammond, Ind.

A. 1. The excessive tension on the new belts would cause them to wear excessively the first week they were used. This relates to the need to increase tension on belts as they become old.

2. One switch was three-pole, giving current to the starter of the burner motor—it had been opened to avoid shocks when installing the new fuses in the motor circuit. But closing this switch did not start the burner. Another switch, two-pole, also had been opened. It provided the juice to power the control circuit. Closing it started the burner (but the three-pole motor-circuit switch had been closed first).

3. In one case, a motor had just one ground from a winding to its frame. Insulating the frame so that it was not grounded permitted using the motor indefinitely—though a man would get a shock touching its frame while it was

NOW IT CAN BE

SOLD

Dealers have found that one of the biggest drawbacks to sales of residential heating-cooling combinations is the problem of *noise*. Now progressive manufacturers are supplying dealers with larger units equipped with Utility's new "Big Boy" Direct Drive Blowers. "Big Boy"—a burly brute of a fan— is packed with *quiet* power that proves this equipment *can* be sold when it has the added sales appeal of silence.

With airflow capacity great enough to handle up to 125,000 BTU—3-ton heating-cooling combinations, "Big Boy" delivers approximately 1,400 to 1,500 CFM at a static pressure of 0.80" WG. It's the most quietly powerful direct drive blower now available.

Utility was first with a line of silent direct drive blowers with Neoprene hubs. Now Utility is first again! Here is a silent direct drive blower with Neoprene hubs and super-quiet permanent split capacitor motor. Why not get together with your manufacturer on the proposition that silence is a golden opportunity for increased sales—for him, for *you?* Remember only Utility's "Big Boy" Direct Drive Blower gives your equipment the power it needs *and* the silence that sells it.

Check with Utility for blowers and blower parts in any combinations. You'll find that . . .

YOU CAN'T MATCH UTILITY FOR PRODUCT AND PRICE!

UTILITY FAN CORP.

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Manufacturers of heavy and standard duty blowers for heating, air conditioning and ventilating installations. Producers of blowers and blower parts for original equipment manufacturers. Write for catalogue data.

UTILITY

A DIVISION OF UTILITY APPLIANCE CORP.

running. In another case, use of oversize thermal elements as overload protectors permitted temporary use of a motor. It ran too hot, of course, because of a short-circuit in its windings. But still it actually could be operated for three hours until a replacement motor was brought to the installation.

4. No! You don't rely on the fuses to burn out and protect the motor. You rely on the overload-protection feature given by the magnetic motor starter.

5. Your idea is good, but probably applying it to every suction-line vacuum gage would not be worthwhile. Because exceedingly few vacuum gages give this air-leak trouble. The trouble is rare; that's why it was not diagnosed speedily on this trouble job. If you use your idea, don't make the pinhole so small that cold No. 6 oil will clog it and cause the gage to give false readings. That could happen on cold start-up, when vacuum gage readings are particularly important.

Q. What's wrong on my new job that the owner says heats the house properly only without the air filters in the furnace? He may be right, because the child's bedroom does seem underheated with filters in place.

J. A. E., Arlington, Va.

A. You are right in determining that the job should heat all rooms properly with the filters in place. Use air-flow instruments; speed up the blower if necessary so that the cfm with filters in use equals the cfm now obtained with no filters—in the child's bedroom. Or with filters in place, reduce the cfm given to all rooms but that bedroom.

You simply face the need to balance the job properly with the filters in place —and perhaps to speed up the blower before you do this.

Q. On p. 30 of your book "Fundamentals of Oilburner Controls" you show an intriguing arrangement for use of a thermostat for the tenant upstairs and a thermostat for the owner downstairs. The tenant's thermostat influence's the owner's through medium of a light bulb under the owner's thermostat; light bulb being turned off by tenant's thermostat when it is below 72°F. in tenant's apartment.

I provided such an arrangement for an oil customer, owner of such a two-family house. Heating system is forced hot-water, not forced-air as your article on the control set-up shows, but the new arrangement works excellently anyhow. Now the owner wants a clock-type room thermostat. Can he have it? Is it installed in the owner's apartment or in the tenant's?

W. T. O., Fitchburg, Mass.

A. Simply install the clock thermostat in the owner's apartment. As the tenant's thermostat will keep the bulb on all night and give the owner's thermostat a few degrees of false heat, set the clock thermostat for a night temperature of three to five degrees lower than actually should be maintained.

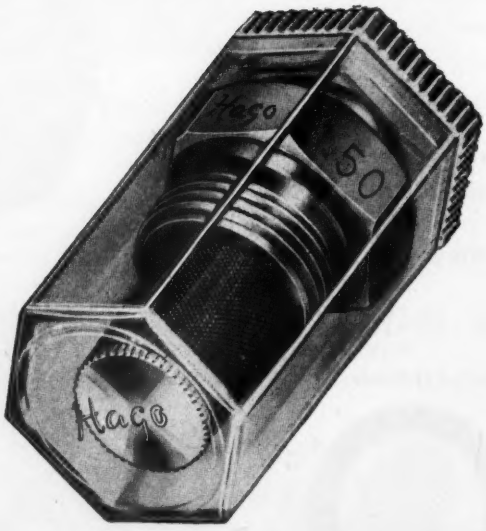
Judging from letters from readers, this unique idea for coupling the action of two room thermostats has gained widespread application in two-family houses. But the results it gives are far from being in a class with those given by a modern, two-zone heating system!

AVOID DELAY! NOTE OUR NEW ADDRESS!

Hago Products

1120 GLOBE AVE., MOUNTAINSIDE, NEW JERSEY

THE NOZZLE THAT SELLS ITSELF!



PACKED IN THE ORIGINAL CLEARSITE HEXAGON CONTAINER

ALL CONTAINER LIDS NOW IMPRINTED WITH SIZE AND DEGREE!

Red for Hollow ***Blue for Solid***

Sell custom-spray applications of dieldrin for home lawn pests

Now you can build bigger profits during the summer slack season—sell liquid fertilizer with dieldrin. Dieldrin added to fertilizer provides a double service for your customers—fertilizes and kills lawn-destroying insects at the same time. You get a double-profit opportunity.

Powerful dieldrin gets all the major insect pests both above and below the ground. Dieldrin is easy to use—it's simply mixed with fertilizer according to label instructions.

Dieldrin adds sales appeal to your liquid fertilizer product. In fact, customers already know that dieldrin is a top lawn pest control through national advertising in Better Homes & Gardens, Saturday Evening Post, Business Week, U. S. News, Fortune, Sunset, Practical Gardener. In addition to national advertising, Shell Chemical has available attention-getting, point-of-purchase material—yours for the asking.

Liquid dieldrin is available throughout the United States from well-known insecticide formulators. They'll be glad to give you complete technical information on dieldrin and its application.

This season build greater customer satisfaction and bigger profits as well—sell dieldrin in liquid fertilizer.

SHELL CHEMICAL CORPORATION

AGRICULTURAL CHEMICALS DIVISION
460 Park Avenue, New York 22, New York

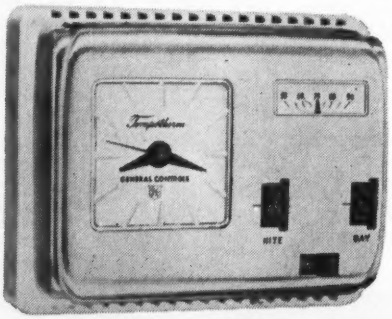
SHELL

New Products

Each New Products item has an identifying number. If you want more information on any equipment described here send the coupon on page 125 to FUELOIL & OIL HEAT, *2 West 45 St., New York 36, N. Y., and identify the product by circling its number on the coupon.*

General Controls Tempotherm clock Thermostat; Spacestat Thermostat

TWO THERMOSTATS have been added to the General Controls line, one, the Tempotherm (illustrated), is a clock thermostat to automatically raise or lower the thermostat setting at preset times. Hermetically sealed, the control features mercury switch contact and large, white numerals on black roll type dials, positioned to permit fingertip control without wall smear.



The other control is the Spacestat L-37 commercial thermostat for installations where dirt and humidity are problems. All major components, including the bimetal element, case and cover are made of stainless steel. Heavy duty, light duty and millivolt models are available. The heavy duty model is supplied with dial lock and external adjustment knob; light duty and millivolt models have external adjustment holes.

Made by: General Controls, Glendale, Calif.

Circle E1 on page 125

Remodeled Lepick Heaters increase Output of oilfired heating Systems

LEPICK HEATERS, which install in the stove pipe of oilfired furnaces or space heaters, have been remodeled to increase heating capacity. The units, which fit 4, 6 or 8 in. pipes, salvage heat from the flue gases and circulate air thus heated to increase outputs. Installation is accomplished by removing one section of stove pipe, substituting the heater unit and plugging in the fan cord.

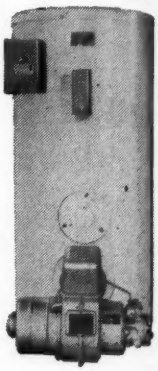
Specifications for the SM-800 furnace model are: Shaded pole electric motor; 8", four blade fan, electric spot-welded construction; static head of .06"; air delivery, 201 cfm; air velocity 480 fpm; fits 4, 5 and 6 in. stacks.

Made by: Lepick Heater Co., 1742 Fourth Ave. S., Seattle 4, Wash.

Circle E2 on page 125

Thrift-Master oilfired water Heater has vertical Tubes for fast Recovery

THRIFT-MASTER'S oilfired water heater, designed for the operative builder, features rotary vertical tubes in a round, Fiberglas insulated jacket, as a means of fast recovery. The heaters meet ASME Code requirements and encompass model DG-126, firing rate 1 gph, recovery rate of 126 gph through 100 degree rise; model DG-162, firing rate of 1.25 gph, recovery rate of 162 gph through 100 degree rise; model DG-198, firing rate of 1.5 gph, recovery rate of 198 gph through 100 degree rise.



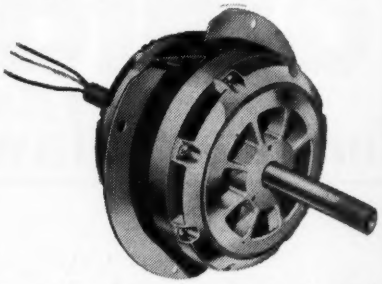
These models are available factory pre-wired and balanced or less oilburner and controls.

Made by: Thrift-Master Div., All-American Products Co., Philadelphia 36, Pa.

Circle E3 on page 125

Iron Fireman develops integral drive blower Motor rated at ¼ Horsepower

AN INTEGRAL DRIVE blower motor, developed by Iron Fireman, features a rotating element on the outside of the blower wheel, revolving around a stationary shaft and field coil assembly. With a flange on the rotor connecting directly to the blower wheel, the motor in effect is an integral part of the wheel, eliminating belts, pulleys or special motor mounts. Blower wheel and motor share a common shaft so that air flow is unrestricted. Motor can be dynamically-balanced not only for mechanical imbalance, but also for electrical imbalance.

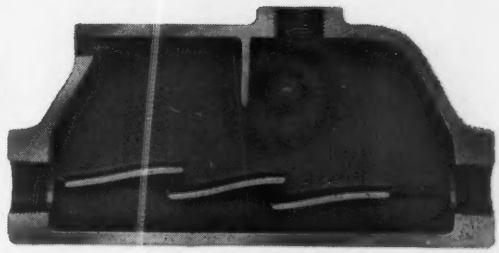


The motor, equipped with automatic-resetting overload protector, measures 6" in diameter (exclusive of connecting flange) and 4½" in width. Special type ball bearings are used to make oiling unnecessary. Motor is a permanent split capacitor type, whose speed automatically changes with variations in static pressure. First models are rated at ¼ hp for 9" and some 10" blowers; other ratings are to be available.

Made by: Iron Fireman Mfg. Co., Electronics Div., 2838 S. E. 9th Ave., Portland, Ore.

Circle E4 on page 125

"READ WHY MORE AND MORE HEATING CONTRACTORS ARE INSTALLING TACO AIR-SCOOPS"



WITH A TACO AIR-SCOOP YOU INSTALL IT AND FORGET IT!

Here's Why:

First you install the Air-Scoop in the supply line. Second, you make a short connection from the Air-Scoop to the expansion tank. That's all you have to do. No call backs. No servicing!

A low-cost Taco Air-Scoop will make your installation complete . . . free of noise.

Use this coupon for more information.

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FORD BIG JOBS can mean

Ford experience in Heavy Duty engines pays off...

- **Much longer peak engine performance!**
- **Much less DOWN TIME on the job!**

Years of Ford research and experience in the big-truck field now bring you the greatest advancements ever in heavy-duty engine performance and durability. New Ford Big Jobs now can give you *more miles of operation at PEAK EFFICIENCY*. This allows you to keep your trucks working longer; cuts DOWN TIME for routine maintenance; saves on major repairs—*in short, generally boosts operating profits all 'round!*

And you get greater payload capacities. Ford offers bigger payloads throughout the line. Payload ratings of some heavy-duty models have been increased by as much as one ton. New high-capacity tubeless tires are standard on all models.

Profit from Ford's leadership—see Ford's FULL LINE at your Ford Dealer. A Ford Big Job starts paying you back the day you buy it—with thousands of extra top-service miles built into it.

FORD BUILDS A FULL LINE OF BIG JOBS FOR YOUR LINE OF BUSINESS

The '56 Ford F-750, an example of Ford's full line of long-life Big Jobs —with a combination of heavy-duty engine features (listed below) designed for years of extra service. Max. GVW 21,000 lbs., GCW 42,000 lbs.

BIG SAVINGS in your business

Only Ford gives you all these "LONG LIFE" Heavy Duty engine features

1. **Longer-lasting exhaust valves.** Sodium-cooled; run up to 225 degrees cooler than solid-stem types.

2. **Up to 50% longer valve life.** Integral valve guides transfer heat to coolant faster than commonly used pressed-in guides.

3. **High engine output.** Maintained with solid tungsten-cobalt alloy exhaust valve seat inserts.

4. **Tighter valve head fit.** Dished-type intake valves are self-sealing even under extreme heat conditions.

5. **Prolonged cylinder head and gasket life.** Stress-relieved cylinder heads expand evenly under extreme heat, permit better cooling.

6. **Longer bearing life.** Rigid, deep-skirt crankcase gives main bearings full 240° support, instead of the usual 180°.

7. **Anti-fouling plugs.** New 18-mm. spark plugs resist fouling up to 3 times longer than ordinary plugs. New long-life electrodes.

8. **Faster starts.** Better ignition, more positive spark action with Ford's new 12-volt electrical system.

9. **Better piston performance.** Aluminum alloy pistons with integral steel struts control expansion for precise fit.

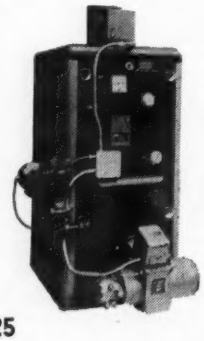
10. **Greater fuel savings.** New carburetor metering system results in better fuel atomization and economy.

FORD TRUCKS LAST LONGER

Certified by independent insurance actuaries for the ninth consecutive year! Studies of over 10,068,600 current license registrations show that Ford Trucks last up to 9.9% longer than any other 4 leading truck makes!

Arkay-Kewanee packaged boiler Unit is Oilfired, offered in four Sizes

QUIET AUTOMATIC announces a new line of packaged boiler-burner units, available in 87,000, 108,000, 149,000 and 189,000 Btu capacities. These Arkay-Kewanee units combine a Quiet Automatic flanged gun type oilburner with a Kewanee boiler, which is delivered complete with jacket installed, controls mounted and hot water circulator attached.



Made by: Quiet Automatic Burner Corp., 33-35 Bloomfield Ave., Newark 4, N. J.

Circle E5 on page 125

Dunham introduces new line of picture window convector Units

DUNHAM announces development of a new line of convectors, whose design heats and blocks cold down drafts around picture windows. The units are 12" high and can be floor-mounted, partially or completely recessed below picture windows. Available in lengths up to 112", the convectors have rounded corners and edges; heavy gauge steel units have front panels braced with stiffeners.

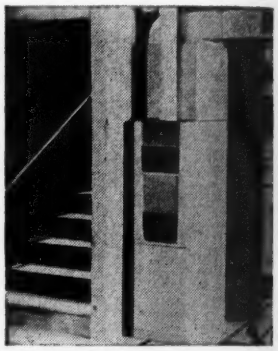
The heating element consists of aluminum fins and copper tubes silver-brazed into cast bronze header. Tubes are expanded into fins. Knob or chain-operated dampers are optional.

Made by: C. A. Dunham Co., 400 West Madison, Chicago, Ill.

Circle E6 on page 125

Carrier Winter Weathermakers adapt simply to year-'round Conditioning

WINTER WEATHERMAKER furnaces have been introduced by Carrier, featuring adaptation to year-'round airconditioning. Vertical models are available with matching plenum on top, which serves as a duct section. These furnaces measure 4½ ft. high, 28" deep, with width varying from 2½ ft. down to 14". Its "vest pocket" size permits easy installation in alcove, closet or utility room. Unit's heating element is die-formed, seam-welded and of heavy gauge steel construction.



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Klemm
MICRO FUEL OIL FILTERS
• Attractive New Packaging • Lower Prices
• Hi-Chrome and Brushed Zinc Plated
PK-150 U/L
FF-430G
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Everything about these new Klemm Micro Fuel Oil Filters spells more profits for you. Still tops in all-round guaranteed performance; traps water and scientifically removes all foreign matter from every drop of fuel oil, eliminating nozzle and line clogging.
SEND FOR 1955-56 Catalog and new low prices
CHEMISTONE Micro ELEMENT (not a ceramic). The replaceable Chemistone Element offers true depth filtration . . . practically no flow resistance. Chemistone is NOT interchangeable with any other type cartridge. The seasonal element replacement business is YOURS and remains YOURS.
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Division of
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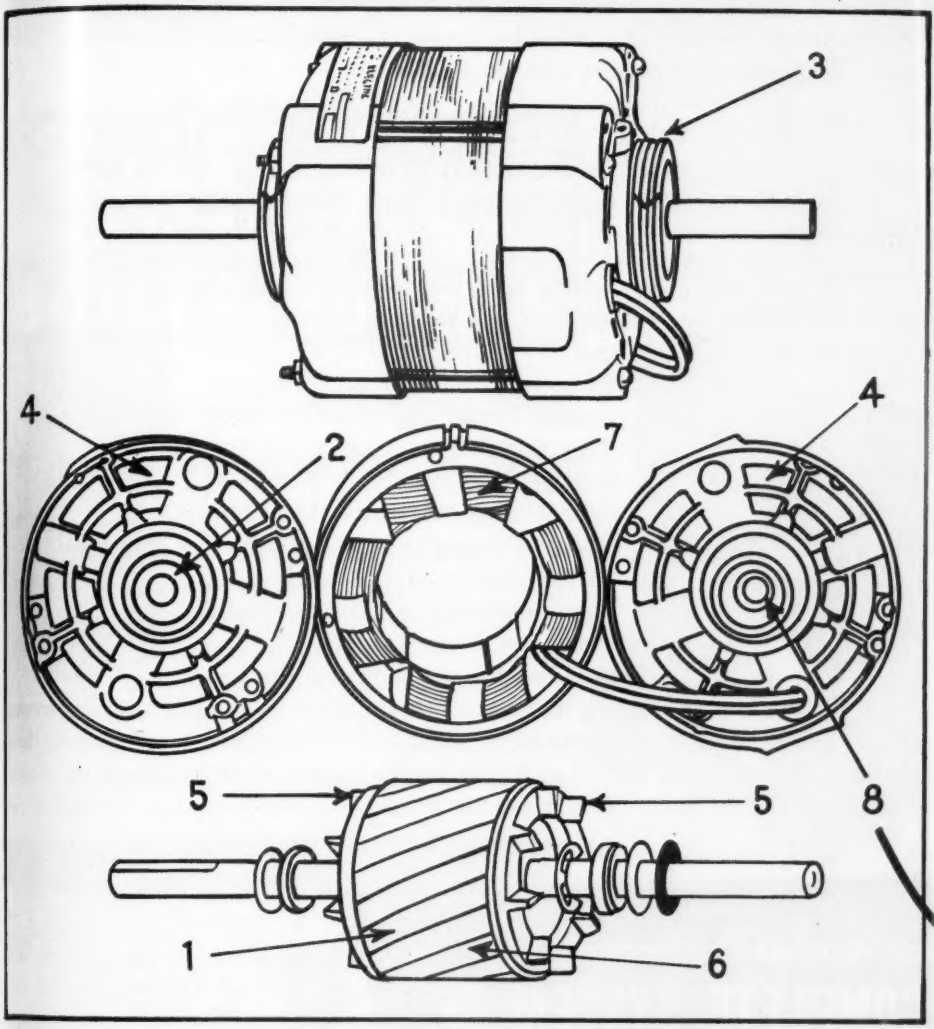
1722 North Damen Avenue • Chicago 47, Illinois
EXPORT: Guilferman Co., Inc., New York 4
CANADA: Elgee, Ltd., Toronto

New...for ECONOMICAL drives



Quiet Operation!

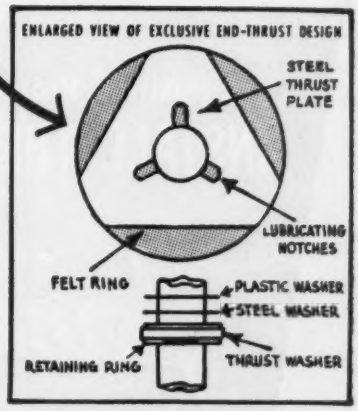
1. Full-skew rotor design. Carefully controlled maximum skew eliminates electrical and magnetic noises.
2. Two large ½-inch diameter bearings assure many years of quiet operation.
3. Special low-durometer-hardness, oil-resistant, synthetic-rubber mounting rings on all resilient mountings kill vibration noises.

Cool Operation!

4. Wide, open end-shields permit free circulation of cool air over windings.
5. Double-fan rotor design gives individual cooling to the end coils. Air enters both ends of motor, giving uniform, efficient cooling.

Highest Performance!

6. Indestructible die-cast rotor is heat-treated to increase electrical efficiency. Full-skew rotor design gives smooth, steady starting and operating torque.
7. Insulation is specially designed to withstand high humidity conditions.
8. Exclusive end-thrust design provides smooth, quiet operation and long, trouble-free motor life.



Apertures in the steel thrust plate permit lubricant from felt ring to be carried to thrust surface. Longer continuous operating life is assured.

Emerson-Electric
Shaded-pole Motors

40 MHF; 1/20, 1/15, 1/12, 1/10, 1/8 HP

Wherever economy is a factor, tnese new Emerson-Electric Shaded-pole Motors are particularly recommended. They are noted for their quiet, cool operation and long, trouble-free life—are suited to such drives as air-conditioner fans, air circulators, unit heaters, air humidifiers, evaporative coolers, window fans, kitchen ventilators, displays.

Among many features that distinguish these new motors is Emerson-Electric's *exclusive* thrust provision which minimizes wear and reduces end play, preventing undesirable noise and variable operation, after the motor is in service. See illustration.

Get More Information

For more information on these new Shaded-pole Motors, call an Emerson Electric motor-drive specialist or write for Bulletin No. M-22. THE EMERSON ELECTRIC MFG. CO., ST. LOUIS 21, MO.

Since 1890 **Emerson-Electric** *of St. Louis*

Branches: NEW YORK 7, N. Y., 11 Park Place • CHICAGO 23, ILL., 1623 S. Pulaski Road • SYRACUSE, N. Y., 209 Oakley Drive • PHILADELPHIA (Secane), PA., 868 Quince Lane • DETROIT 7, MICH., 1375 E. Jefferson Ave. CLEVELAND 16, OHIO, 1580 Rockland Ave. • LOS ANGELES 42, CALIF., 5415 York Blvd. • DAVENPORT, IOWA, 617 Brady St. • CINCINNATI 11, OHIO, 2917 Ratterman Ave.

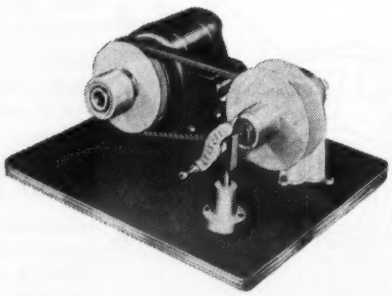
These furnace units are adaptable to summer airconditioning simply by lifting a removable front cover on the Weathermaker plenum, slipping in a cooling and dehumidifying coil and connecting to a remotely-located air-cooled condensing unit. A dual Weathermaker control center for regulating summer and winter temperatures is standard equipment.

Made by: Carrier Corp., Syracuse 1, N. Y.

Circle E7 on page 125

Lovejoy adds compound Drive to Line of variable speed Pulleys

A NEW COMPOUND DRIVE, providing constant belt alignment through its speed range up to 8 to 1 ratio, has been added to Lovejoy's line of variable speed pulleys. Using a 1750 rpm motor a speed range of 5560 to 690 is obtained at ¾ hp; with an 1150 rpm motor a speed range of 3650 to 454 is provided at ½ hp.



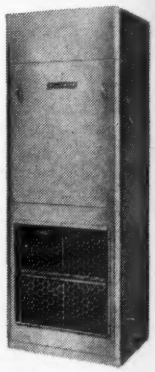
Pulleys accommodate NEMA motor frame shaft sizes and use a ⅞" top width or "A" belt as standard. Available in spring loaded or manually-operated design, they can be mounted on one side or alternate sides as required. Oil-impregnated bronze bearings provide lifetime lubrication. The compound drive, while designed for new equipment application, also can be used to replace units now in use.

Made by: Lovejoy Flexible Coupling Co., 4909 W. Lake St., Chicago 44, Ill.

Circle E8 on page 125

Williamson Wethermatic Units are both water and air-cooled Models

WILLIAMSON's line of Wethermatic console type airconditioning units (illustrated) are available in 2, 3 and 5 ton sizes for use alone as space cooling units, or connected to a duct system for more remote cooling or used with existing forced warm air furnaces. They feature more compact and two-tone green color styling, in keeping with Williamson's color styling for its complete heating and cooling line.

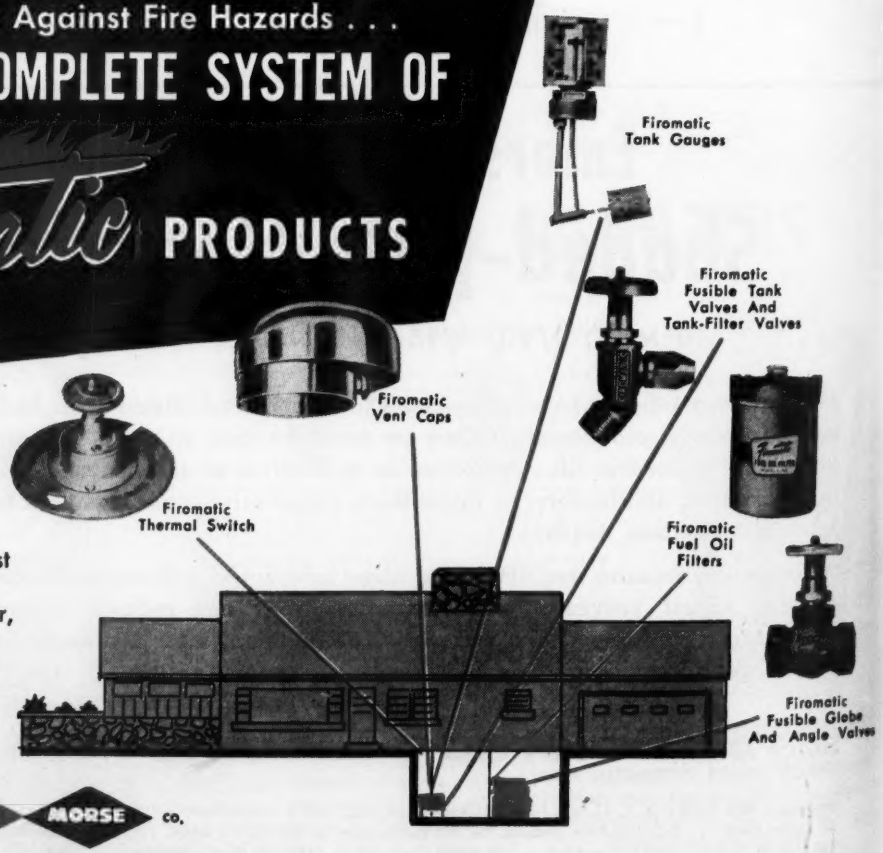


Also announced are Wethermatic units employing outdoor, air-cooled compressor units. This is a new suction-cooled type compressor, eliminating the need for mounting the compressor in the air stream produced by the unit fan. Other design features on these 2, 3 and 5 ton models include ability to mount the finned coil above the ground, a condensate drain mounted be-

For Positive Protection Against Fire Hazards . . .

INSTALL THE COMPLETE SYSTEM OF

Firomatic PRODUCTS


Firomatic Tank Gauges
Firomatic Fusible Tank Valves And Tank-Filter Valves
Firomatic Vent Caps
Firomatic Thermal Switch
Firomatic Fuel Oil Filters
Firomatic Fusible Globe And Angle Valves

Every Firomatic product is designed to do a specific job, and when installed together in a fuel oil heating system, provide the best protection possible against fire hazards.
To both the jobber and the installer, the famous Firomatic line offers a substantial profit on every product . . . trouble-free performance . . . and ease of installation. Sold nationally by jobbers only.

THE MORSE SMITH MORSE CO.

165 Dexter Avenue • Watertown, Mass.

Here it is

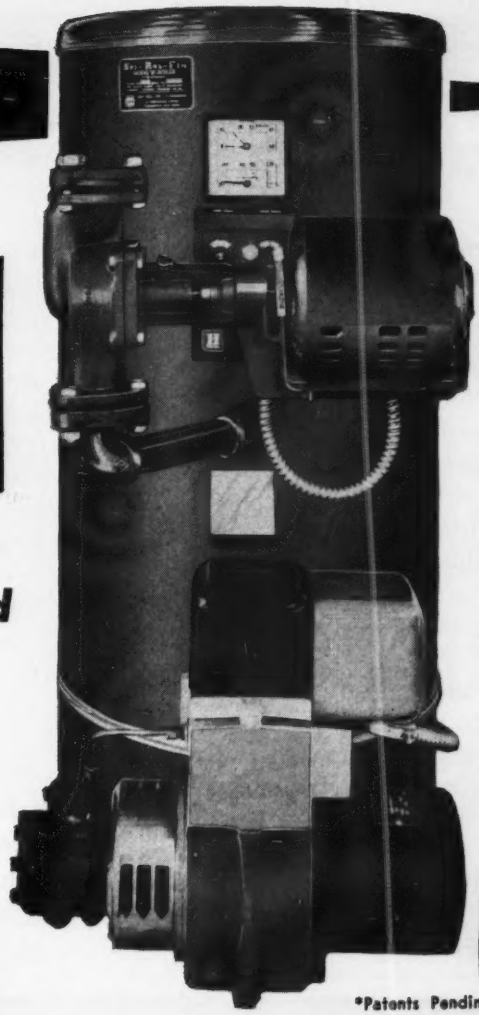
COMPLETELY PACKAGED SPI-ROL-FIN BOILER-BURNER

designed with you the Heating Contractor in mind

FEATURING —

- **Quality Construction (A.S.M.E.)**
- **Light weight - easy handling**
- **Easy installation**
- **High output and efficiency**
- **All-copper tankless coil**
- **Compact design**
- **Neat appearance**
- **Components assembled and pre-wired**

and "Easy-to-Carry" packaging.



GOLD CROWN

SERIES 600

OIL FIRED HOT WATER

Package includes:

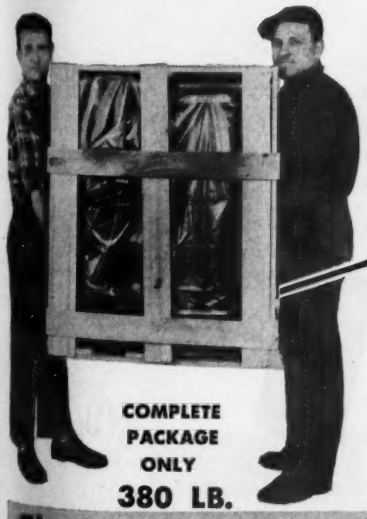
Boiler
Combustion Chamber
Insulation
Jacket
Oil Burner
Tankless Coil
Circulator
Theraltimeter
Thermostat
Relief Valve
Drain Cock
Stack Control
Triple Acting Aquastat
Flow Control Valve

Complete package only **380 LBS.**

*Patents Pending

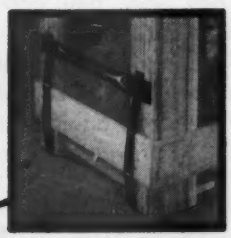
The only residential steel boiler featuring *extended surface heating areas* for most efficient operation.

The photograph shows the easy two man handling. This is made possible by the design of the unit itself and the method of packaging. All crates are equipped with two heavy steel safety carrying handles (see photograph inset). They are bolted to the crate itself and also to two heavy duty steel straps, which pass under the full length of the crate. These handles make it possible for two men to pick-up, carry and place the complete unit where ever desired. No dollies, skids or block and tackle are needed.



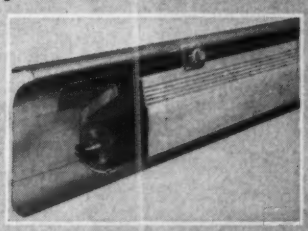
COMPLETE PACKAGE ONLY 380 LB.

EXCLUSIVE



Get on the band-wagon now — ask your supplier about the new SPI-ROL-FIN Boiler-Burner which when combined with SPI-ROL-FIN's Baseboard Radiation will make your next installation —

- ***EASIER***
- ***FASTER***



- ***MORE PROFITABLE TO YOU***

write, wire or phone for complete information!

SPI-ROL-FIN CORPORATION
133 GREENWOOD AVENUE • PEQUANNOCK, NEW JERSEY
Telephone: TERHUNE 5-3352

Canadian Distributor
T. L. Livingston & Sons, Ltd.
73 Main Street, East
Hamilton, Ontario

The next time--use a complete Spi-Rol-Fin Heating System.

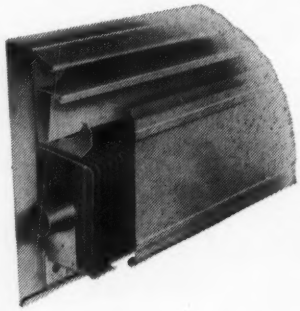
tween the compressor and finned coil and improved external styling. Available for space or duct type cooling.

Made by: The Williamson Co., 3312 Madison Rd., Cincinnati 9, Ohio.

Circle E9 on page 125

Standard Fin announces Aire Base baseboard Radiation in three Lengths

AIRE BASE baseboard radiation for forced hot water heating systems is available in packages containing a complete unit assembly in 4, 5 or 6 ft. lengths. The carton contains backing plate, cradle hangers, brackets, damper cover plate, joining piece and radiation element. Aire Base uses aluminum fins on copper tubing.



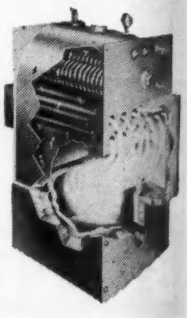
Units measure 9½" high and extend 2¼" to 3" into the room, depending upon whether flush or recessed installation is used. Removal of the front cover plate makes all parts accessible for cleaning or servicing, while fingertip control is provided for regulation of heat output in each room.

Made by: Standard Fin Pipe Radiator Corp., Clinton, Mass.

Circle E10 on page 125

Portmar Boiler enlarges its Line of tankless volume water Heaters

EXTENSION of the Portmar line of tankless volume water heaters makes available a variety of 14 models, delivering from 300 to 6,000 gph of hot water at 100 degree rise. Oilfired WH series self-contained water heaters feature submerged twin copper coils, connected adjacent to each other and submerged horizontally across the top section of the heater. One coil performs as a preheater.



Both coils being surrounded by fast circulation hot water permit quick temperature pick-up and volume supply without a storage tank. Where required the heaters can furnish two temperatures of hot water, 140° and 180° F., for example, for general use and sterilizer-rinse.

Made by: Portmar Boiler Co., Inc., 193 Seventh St., Brooklyn 15, N. Y.

Circle E11 on page 125

New Lengths and Gauges available for Grant Wilson duct Connectors

VIBRA-STOP and Flexi-Duct, Grant Wilson flexible duct connectors, are now available in rolls of 25, 50 and 100 feet. Vibra-Stop is now being fabricated with either 24-gauge or 26-gauge prime galvanized metal.

NEW! IMPROVED! GENERAL FUEL OIL FILTERS

Models 1A-25A and 2A-700A Offer These New Features

1. RESTYLED SEAL IN FILTER CAP PREVENTS LEAKAGE
2. CUPPED RIM IN BOWL FOR EASIER SEALING
3. NEW BUNA GASKET COMPOUND

ABSOLUTELY LEAKPROOF

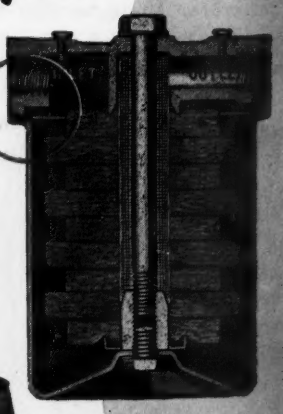
IMPROVED 1A-25A

IMPROVED 2A-700A

DELUXE 2A-300
for big dirty jobs
Depth-type, metal encased cartridge.
Exclusive screw-type handle release

Won't Clog . . . Won't Crack

Complete restyling of the cap, seal, and gasket of General Filters 1A-25A and 2A-700A *positively eliminates any danger of leakage or improper sealing.* GENERAL'S CUPPED-RIM *all-steel* filter bowl holds the new BUNA gasket securely in place against the redesigned *cast iron* CAP SEAL . . . provides easier sealing . . . lifetime dependability!



CLEAN RIGHT SOOT REMOVER
removes up to ½" layer of soot from any heating plant in 2-5 minutes! Non-corrosive, non-explosive. Made specially for General Filters.

GENERAL FUEL OIL FILTERS
the ORIGINAL Filter
Are More Dependable Than Ever!

GENERAL FILTERS, INC.
43800 GRAND RIVER AVENUE • NOVI, MICHIGAN
Canadian General Filters, Ltd. • 39 Crockford Blvd. • (Scarboro) Toronto, Canada

"where there's a need there's a way"

AND HERE ARE A FEW of the "ways" the Shell Oil Burner Testing Laboratory at Sewaren, New Jersey, has developed to raise standards in the oil heating industry:

- Pioneer work in standardizing grades of fuel oil.
- Release of the Shell-developed "Combustion Head" to the oil burner industry.
- The Shell "Smoke Meter," the first simple, reliable device for measuring flue gas smoke and its effect on heating efficiency.
- FOA-5X*, the fuel oil additive that prevents clogging of oil burner filter screens.
- Automatic apparatus to measure boiler efficiency under actual service conditions.
- Shell Sonitor*, the rust inhibitor that gives oil storage tanks long-term protection against corrosion.

Research now underway at Sewaren promises even more benefits to manufacturers, distributors and consumers.

*Trademark Registered U. S. Pat. Off.

SHELL OIL COMPANY

SHELL

STOP LOSSES,

Operator prepares to reset register on 500 gpm Rotocycle meter and open automatic valve following delivery of 3500 gallon load to tank truck.

SAVE TIME

"Topping-off" Loads

Rockwell *ROTOCYCLE* Meters

With MULTI-STAGE QUANTITY CONTROL

Give "On-the-Nose" Measurement and Smooth Automatic Shut-off

This efficient Rockwell meter-control system will save time, money and effort for all who load tank trucks or tank cars. It provides an accurate *shockproof* way to automatically shut off flow after a pre-selected quantity of lading has been measured. The systematic method it offers for tapering flow when "topping-off" a load prevents errors common to manual operation. And, since the automatic valve closes in three (3) smooth successive stages, there can be no destructive water-hammer or hydraulic shock.

Rockwell Rotocycle Meters with built-in Quantity Control are available in sizes from 2-in through 6-in with a capacity range of from 20 gpm up to 800 gpm. *Steel cases are furnished for refineries.* Write for bulletin OG-454.

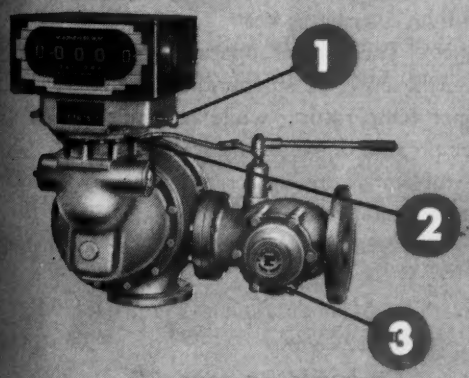
ROCKWELL MANUFACTURING COMPANY

Pittsburgh 8, Pennsylvania

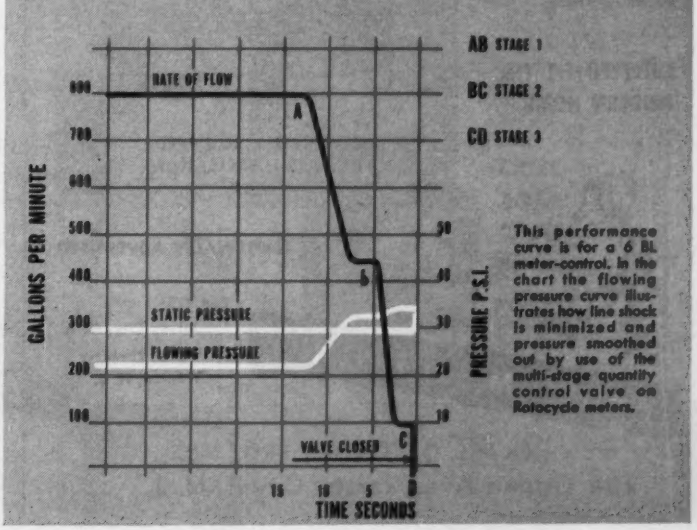
Atlanta Boston Charlotte Chicago Dallas Denver Houston Los Angeles Midland, Tex. New Orleans New York N. Kansas City Philadelphia Pittsburgh San Francisco Seattle Shreveport Tulsa
In Canada: Rockwell Manufacturing Company of Canada, Ltd., Toronto, Ontario. Caracas, Venezuela

HOW IT WORKS

Model illustrated is 2BL meter-control for smaller flows down to 20 gpm. Operation in all sizes is as follows: (1) Predetermining register is first set to the quantity desired (2) Latch Box then transmits closing action (3) Multi-stage Valve systematically shuts off flow in three smooth stages.

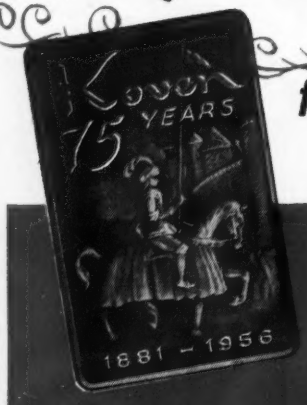


HOW IT PERFORMS



This performance curve is for a 6 BL meter-control. In the chart the flowing pressure curve illustrates how line shock is minimized and pressure smoothed out by use of the multi-stage quantity control valve on Rotocycle meters.

15 years of SERVICE and ECONOMY



for QUICK 'N EASY INSTALLATION

venko

GAS or OIL FIRED PACKAGED UNIT

by Koven

What better way to save valuable on-the-job time than with the quickly installed gas or oil fired packaged unit by KOVEN. Completely wired and assembled, VENKO arrives ready for *immediate* installation — ready to provide the economical heat and hot water, the dependable, long-lasting service builders know and recommend. But see for yourself. Order VENKO now and learn how years and years of careful planning and research have made this gas or oil fired packaged unit a real homeowners' dream come true.

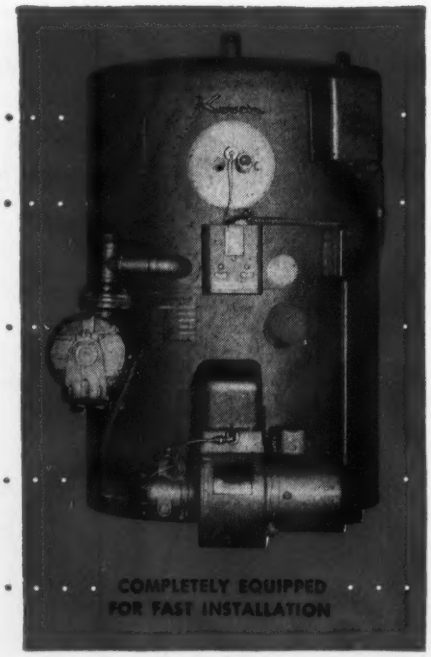
PLENTY OF HEAT AND HOT WATER

FUEL-SAVER— economical to operate

FULLY WIRED AND ASSEMBLED (as illustrated)

FITS THROUGH A 30 INCH DOOR in easy one-man handling crate

BUILT TO FIT THE MODERN HOME



COMPLETELY EQUIPPED FOR FAST INSTALLATION

NATIONALLY ADVERTISED

PLANTS: Jersey City, N. J. Dover, N. J. Trenton, N. J.

WATERFILM BOILERS, INC.

a division of L. O. KOVEN & BRO., INC.

154 Ogden Ave., Jersey City 7, N. J.

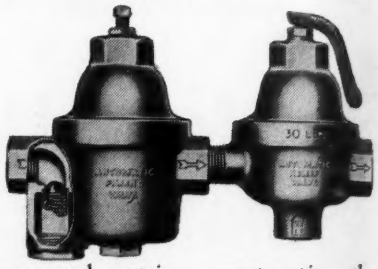
Made of woven asbestos flexible tape, Flexi-Duct is available in 6" and 8" widths. Vibra-Stop connectors come in asbestos and canvas—a 4" strip is factory sealed to the metal. Rolls of both products are individually packaged in easy-to-handle cartons.

Made by: Grant Wilson, Inc., 141 W. Jackson Blvd., Chicago 4, Ill.

Circle E12 on page 125

Thrush dual control Units for hot water heating Installations

THRUSH dual control units consist of an automatic filling and automatic relief valve combination for hot water heating systems, now designed to include a built-in check to prevent loss of water in the cold water supply line. Available in ½" and ¾" sizes, both brass and cast-iron construction, the dual control units combine maintenance of water supply with automatic relief of excessive pressure.



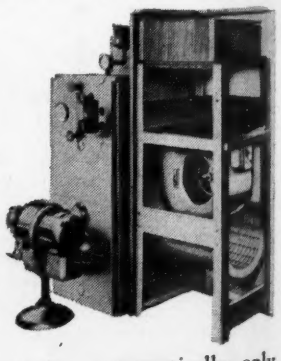
They are installed in the water supply line close to the boiler and are recommended for use in conjunction with a Thrush pressure tank to provide for expansion of heated water, although the dual control units are described as working without the tank, also.

Made by: H. A. Thrush & Co., Peru, Ind.

Circle E13 on page 125

Temp-a-trol Units features warm Air and hot water Supply

TEMP-A-TROL heating units combine forced warm air heating and domestic hot water supply, using a steam-generating, oilfired boiler and a Thermo-Vector, high pressure, heat transfer unit of the fin and tube type. When heat is called for by the thermostat, the gun burner fires the boiler, produces steam which passes through the Thermo-Vector, over which a circulating blower forces air to be heated and then distributes it through ducts. The blower operates automatically only when its control senses air surrounding the Thermo-Vector at the proper temperature, while coils submerged in the boiler water provide domestic hot water.



Temp-a-trol unit is fired at a rate from 0.85 to 1.25 gph and delivers a maximum boiler output of 91,800 Btu/hr., 88,900 at the Thermo-Vector and 75,565 Btu/hr. at the register.

Made by: The Milldale Boiler & Furnace Mfg. Co., Norton St., Milldale, Conn.

Circle E14 on page 125

Take a long look at this new look in controls

CRISE
ACRO

QUALITY CONTROLS

•

MODEL FAL40

Combination Fan and Limit Control

NEW—cleaner, neater appearance

NEW—ease of adjustment permits more precise settings

NEW—improved dial arrangement is easier to read

NEW—closer differential on fan

NEW—clear-faced lucite window

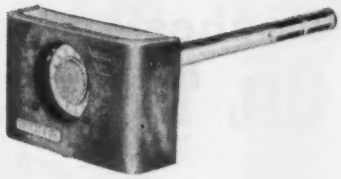
All Models Vastly Improved

All Crise controls have undergone a major "face-lifting." Their improved appearance has been matched by engineering advances that result in closer operation, longer life and greater ease in setting. Now, more than ever, Crise is the *value leader* in *quality* temperature controls. Write for catalog and price list.

ACRO
MANUFACTURING COMPANY
CONTROLS DIVISION
COLUMBUS 16, OHIO

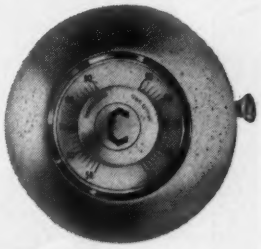
fueloil & oilheat

There's a Dependable Crise Control for Every Application



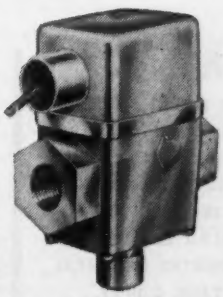
CRISE FAN AND LIMIT CONTROLS

The highest quality in fan, limit and combination controls for automatic heat. All feature clear lucite windows, easy-to-read dials.



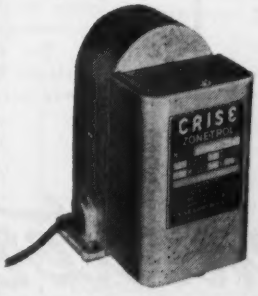
CRISE THERMOSTATS

There's modern beauty plus the greater utility of a double scale in this new round thermostat. The removable cover can be painted to match any wall.



CRISE SOLENOID GAS VALVES

Built for use with all types of gases and gas-fired heating equipment. Designed for whisper-quiet operation, long life.

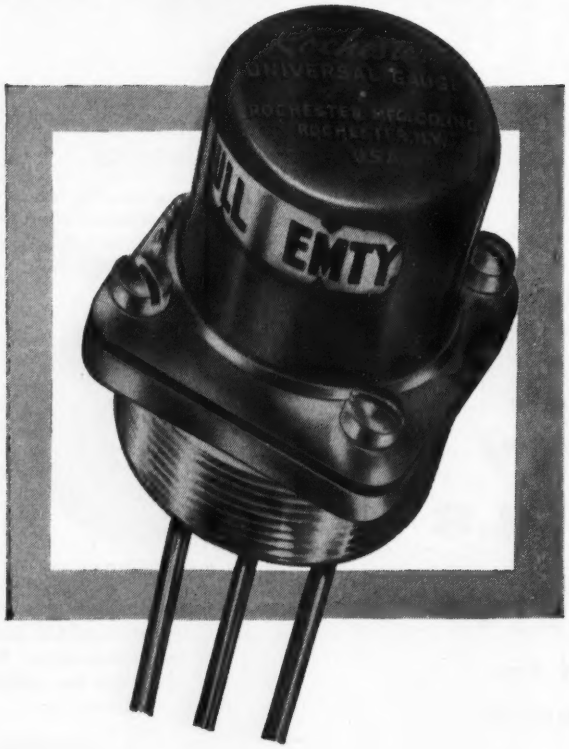


CRISE ZONE CONTROLS

Each Crise Zonetrol is a complete unit. No auxiliary switch, power box, or transformer is required. It's the economical way to zone heating and air conditioning systems.

WEATHER-PROOF
FUME-PROOF
LEAK-PROOF
FOOL-PROOF

* Rochester Universal
OIL TANK GAUGES



DON'T . . .

TAKE THE CHANCE OF RUINING A GOOD INSTALLATION... INSIST UPON HAVING THE BEST . . . YOU'LL BE GLAD YOU USED A ROCHESTER UNIVERSAL OIL TANK GAUGE.

SOLD AT LEADING WHOLESALERS EVERYWHERE

1. The pressure tight head is sealed and weatherproofed so it can be used indoors or outdoors. Only one type gauge needed for any installation.
2. Head is hermetically sealed making it leakproof, dustproof, and absolutely shockproof.
3. There is no opening of any kind into the tank. The dial indicator works on a magnetic DRIVE, giving perfect reading at all times.
4. Safety factor far exceeds the requirements of the Underwriters. The model 3175 Gauge withstands tank pressure of 200 pounds per square inch.

Rochester
MANUFACTURING COMPANY, INC.
DIAL THERMOMETERS GAUGES AMMETERS
ROCHESTER DEPENDABLE ACCURACY GAUGES

Rockwood Street, Rochester 10, N. Y., U. S. A.

Alarm-A-Lite flashes Signal when Temperatures in Home are too Low

DESIGNED to flash a signal when temperatures in a home fall below 50° F., Alarm-A-Lite plugs in any 110 volt receptacle and any household lamp in turn is plugged into the signal. The alarm is thermostatically-controlled, continues to flash the lamp until the temperature is raised to a safe level and automatically re-sets itself.

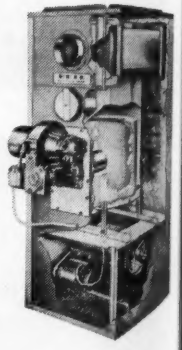
Alarm-A-Lite is 2" in diameter by 3½" long and uses no current unless the alarm is actuated. It is recommended particularly for homes that are empty for periods of time or even vacated overnight or week-ends, when arrangements can be made for a neighbor, for instance, to periodically check the alarm.

Made by: Custom Mfg. Co., 4416 W. Fullerton Ave., Chicago 39, Ill.

Circle E15 on page 125

Oilfired Highboy with 84,000 Btu Output introduced by Heil Co. for small Homes

THE HEIL CO. has recently introduced an oilfired highboy winter airconditioner rated at 84,000 Btu output. The unit, like others in the "Parkway" series is expected to appeal to builders of small and medium-size homes.



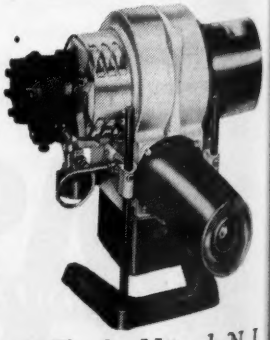
Model JF-0 is pre-assembled and pre-wired and is equipped with model CB-1 pressure-atomizing oilburner. The unit requires about four sq. ft. of floor space and is 62" in height. It may be installed as close as one inch from combustible walls.

Made by: The Heil Co., Milwaukee 1, Wisc.

Circle E16 on page 125

Metalmaster burner Line increased as Shell type Model is introduced

A SHELL TYPE BURNER was recently added to the line of Metalmaster Corp. It has been designed to facilitate servicing and all parts are accessible through the rear of the burner.



It may be either pedestal or flange mounted and has a range of .75 to 2.00 gph. All provisions for flame adjustment are external and the unit has a built-in junction box for faster, neater wiring.

Made by: Metalmaster Corp., 66 Elm St., Newark, N.J.

Circle E17 on page 125

(Advertisement)

How An Electrician Makes His Volt-Ammeter Pay

An electrical contractor in Elment, N. Y., has found that a pocket-size, split core, a-c ammeter not only saves him considerable time, money and work, but also, by enabling him to make accurate on-the-job estimates, helped him convince customers of the need for additional wiring and installation.

Here are a few examples of how his Amprobe volt-ammeter helps make jobs pay off:

In a furniture plant in Brooklyn, he was called upon to check the electrical load while the plant was going full blast. It was a 3-phase, 4-wire, 200 amp service fed with 4/0 wire. Measuring each phase, he found the current to be A-115 amp, B-128 amp and C-160 amp. With the customer watching these measurements—and visibly impressed that operations continued uninterrupted—it was no problem to sell him on the idea of balancing the phases and make it possible to add some new equipment.

Another case involved repeated blowing of fuses on the circuit running a motor on a centrifugal dryer. This was 1-½ hp, 1750 rpm 220 v. 60 cy single phase motor fed by #12 line with a 30 amp fuse which was connected to a #8, 60 amp line. Checking one of the conductors of the motor, he found that it drew 48 amp on starting, sustaining a current in excess of 30 amp for 3 seconds and drew 9 amp once it came up to rated speed. Showing the customer that there was nothing wrong with the motor, but that he should change the #12 line and 30 amp fuse block to a #8 Rh wire and protect it with a 45 amp fuse, the job was sold with a nice profit.

In a third call, to a doctor's office where a fuse blew every time the sterilizer was turned on, he checked the current with the sterilizer disconnected. His Amprobe showed 15.3 amp load. Checking the premises uncovered the difficulty—a ¾ ton air conditioner had been plugged into the same circuit. It was no trouble convincing the doctor that a separate line was needed for the air conditioner, and another wiring job was sold.

These examples are but a few of the many thousands of ways an Amprobe will pay off for electrical contractors. For more detailed information, write Pyramid Instrument Corporation, 630 Merrick Rd., Lynbrook, N. Y.

WHY

settle for an ordinary voltage tester?

Ask yourself these questions	The AMPROBE Junior	ordinary voltage tester
Does it measure current as well as voltage?	YES	NO
Does it give you full visibility on a graduated reading scale?	YES	NO
Does it fit conveniently in your pocket?	YES	YES
Does it measure within ±3% accuracy?	YES	NO
Does it come in a full line of models to meet different problems?	YES	NO
Does it protect you against shorts and shocks?	YES	YES
Does it balance loads, locate grounds, determine motor overloads, check rating of circuit breakers?	YES	NO

***The Amprobe Jr.* gives you so much more! And the cost is only $19.85 (just a few dollars more than an ordinary voltage tester).**

Why be half-equipped with just a voltage tester? The **Amprobe Jr.** meets *all* your testing needs... measures voltage and current instantly and accurately without shutting down equipment. All this with one rugged and inexpensive pocket-size tool!

There's an **Amprobe** model for every job, every budget: from 10 amp and 250 volts to 1200 amp and 600 volts AC; from $19.85 to $67.50. See them at your jobber's today.

Send for valuable **Amprobe** literature showing how you can do a better job in less time. Mail coupon now to: PYRAMID INSTRUMENT CORP., LYNBROOK, N. Y. (Export Div.: 458 Broadway, N. Y. 14), world's largest manufacturer of snap-around volt-ammeters.

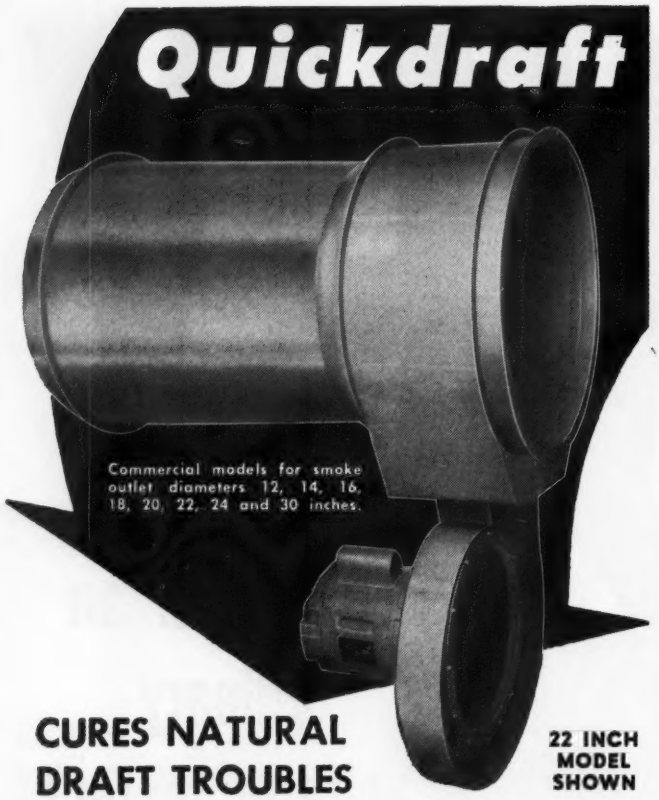
Amprobe Jr.®
snap-around volt-amp tester **$19.85**

Send For Free Service Bulletin

Pyramid Instrument Corp.
Dept. E-16, Lynbrook, N. Y.
Please send me the Amprobe service bulletins checked below:

- ☐ How to cut costs and land more jobs
- ☐ Trouble-shooting electric motors
- ☐ How to boost service profits
- ☐ Electrical servicing of hermetic units

NAME_____
COMPANY_____
ADDRESS_____
CITY_____ ZONE____ STATE_____



CURES NATURAL DRAFT TROUBLES

22 INCH MODEL SHOWN

Increasing concentration of carbon and sulphur dioxides in the atmosphere, recently reported by scientists, handicaps ordinary chimneys by decreasing natural draft (CO_2 is 55% and SO_2 is 225% heavier than air) . . . and by demanding more draft because additional air is required to provide sufficient oxygen. In addition, current trends constantly demand more draft . . . (1) new fuels that require more oxygen . . . (2) longer flue travel in furnaces and boilers. As a result, more and more heating plants operate at low efficiency because of gravity draft troubles.

WITH POWER DRAFT THAT ASSURES HEATING PLANT EFFICIENCY

. . . No Fans or Motors in Smoke Line

Quickdraft power draft stops sooting, eliminates chattering, drys wet chimneys and greatly increases combustion efficiency. It does not obstruct smoke line with fans or motors. Quickdraft assures top performance from old and new heating plants. All models are approved by Board of Standards and Appeals, New York City. Write today for details.

Residential models for smoke outlet diameters 6, 7, 8, 9 and 10 inches.

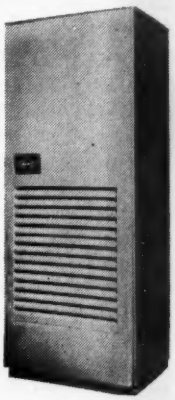
N-285-QD

Quickdraft COMPANY
Canton 1, Ohio

QUICKDRAFT COMPANY
Dueber-Hampden Building
P. O. Box 87-F,
Canton 1, Ohio

Unarco Dynapac, water or air-cooled self-contained airconditioning Unit

DYNAPAC is the first Unarco packaged airconditioner designed and built as an integrated unit. Available in both water and air-cooled models, Dynapac is intended for commercial installations in the 2, 3 and 5 hp range. It features a hermetically-sealed compressor, condenser and coils welded together, a built-in plenum chamber and high capacity blower. Its top discharge grille embodies a series of individual louvers to direct air to the front, rear or sides.



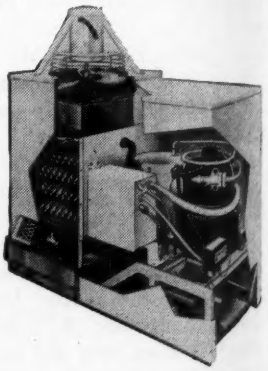
Both air and water-cooled models are completely prewired; water-cooled models also are prepiped. Dynapac is equipped with standard connections so that it can be used with ductwork; return air connections are located at the rear of the cabinet.

Made by: Union Asbestos & Rubber Co., Heating and Cooling Div., 332 S. Michigan Ave., Chicago, Ill.

Circle E18 on page 125

Coleman introduces new Line of packaged airconditioning Units

COLEMAN'S new line of packaged airconditioning units is offered in 1¾, 3 and 5 hp sizes, using either chilled liquid or direct expansion cooling coils, designed for remote system residential central airconditioning. Units include Coleman's "Air-Mist" condenser of the wet bulb type, utilizing the extra cooling effect of evaporation to absorb heat from the refrigeration system faster. Water consumption is estimated at about 3 gals. per ton-hour.



In the liquid chiller model the refrigeration cycle is sealed-in at the factory, simplifying installation. Chiller assembly is the shell and coil type, insulated with molded air-cell plastic. Entire system is shipped fully charged. Ordinary copper water pipe is used to carry the chilled liquid to cooling coils in either wet heat or forced warm air heating systems.

Made by: The Coleman Co., Wichita 1, Kansas.

Circle E19 on page 125

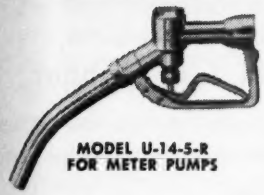
Standard Boiler oilfired water Heater works by Operation of the water Faucet

STANDARD BOILER offers an automatic oilfired hot water heater, which is controlled with the opening and closing of a hot water faucet. When the faucet is opened the gun type oilburner automatically starts; when the faucet is

Specify Milvaco valves . . .

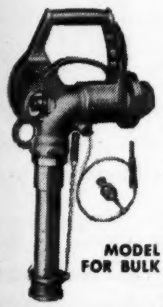
one source for all service

HOSE NOZZLE VALVES



MODEL U-14-5-R
FOR METER PUMPS

Rugged, die cast body. Rigid tube. Non-slip positive seating for accurate metering. Reversible Permadisc design eliminates disc distortion. Non-chattering even at full flow



MODEL P-2010
FOR BULK DELIVERY

Milvaloy nozzle body. Full capacity flow. Dual poppets and two-stage fulcrum lever. For gasoline or fuel oil. 100-mesh strainer, dust cap and ground cable.

MODEL P-2040
FOR FARM TANKS

Bronze body and tube. Specially designed for full gravity flow on overhead tanks. Positive closure. Permanent-type packing. Long-wearing disc. Adaptable to 15-lb. pressure.

MODEL P-2760 FOR
UNDERWING FUELING

Approved and used by major airlines. Ends over-wing fueling hazards. 100-mesh strainer removable for cleaning without detaching nozzle.

GATE VALVES

MODEL P-2690
SCREWED TYPE

Bronze by-pass pressure-relief valve. Relieves excess back-pressure around disc to inlet side.

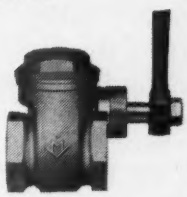
MODEL P-2654
FLANGED TYPE

Milvaloy. Rising stem. Double disc design ends seating troubles. Bolted bonnet. Square or round flanges.

MODEL P-2877
VICTAULIC TYPE

Bronze. Rising stem. Bolted bonnet. Double disc for positive closure, longer seat life. 150 lb. W.O.G.

MODEL
P-901-U
LEVER
THROTTLE
TYPE

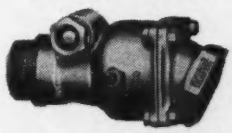


Bronze. Quick opening, self closing type. Double disc finds natural seat with less friction. Screwed ends. Underwriters approved.

TRUCK TANK FAUCETS

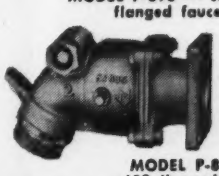
Every Milvaco truck tank faucet gives you all these advantages:

- **Straight-line flow for quick delivery**
- **Permadisc construction to eliminate disc distortion**
- **Reversible disc to save you money**
- **Easy adaptation or change from straight to angle inlet**
- **Available with safety cap and standard adapter for quick hose coupling**



MODEL P-870 — 22½°
screw type faucet

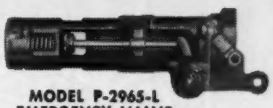
MODEL P-890 — straight,
flanged faucet



MODEL P-895 —
65° flanged faucet

MODEL P-851 — locking
type faucet with
safety cap, less handle.

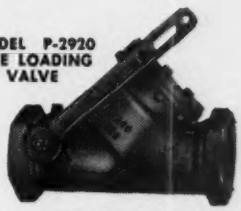
MISCELLANEOUS VALVES



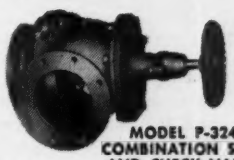
MODEL P-2965-L
EMERGENCY VALVE

Bronze. Self-closing type. Positive protection in case of fire.

MODEL P-2920
LINE LOADING
VALVE



Bronze. Shockproof action. Dual poppets. Renewal discs replaceable without removing valve from line.



MODEL P-324
COMBINATION STOP
AND CHECK VALVE

Milvaloy, dual-purpose valve. Round flanges. Bolted bonnet. Composition disc.

MODEL P-2615
MANIFOLD CROSS VALVE

Bronze. Screwed ends. Screwed bonnet. Composition disc.

No matter how or where valves are used in oil handling, there's a Milvaco valve, nozzle, faucet or fitting for that particular service. Positive-action Milvaco valves give you quick control, maximum flow. And only Milvaco valves are made with weight-saving *Milvaloy*, the chemically resistant, non-sparking, modern alloy that meets ALL your exacting requirements. Specify Milvaco — *get the right valve for every job!*

Write today for catalog B155.

MILWAUKEE VALVE COMPANY

A Subsidiary of A-P Controls Corporation

2377 South Burrell Street • Milwaukee 7, Wisconsin

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THE MARK OF PERMANENT QUALITY

you can
DEPEND on
Monarch
UNIFORMITY

Every Monarch Nozzle is precision machined and fire-tested for exacting uniformity in every detail. For dependable trouble-free operation put your confidence in Monarch's guaranteed uniformity.

Check these 6 Big Monarch Features:

1. Every tip individually tested for Spray Angle and Capacity.
2. Self-Centering internal assembly always produces a balanced spray.
3. Micro-Finish of Tip and Disc seats plus extremely close manufacturing Tolerances insure accurate capacity control.
4. Will handle any United States or Canadian domestic oils.
5. Tip, Disc, and Locknut are made of High Chrome Stainless Steel for maximum heat and wear resistance.
6. Five different series available for producing various spray characteristics—all developed through hundreds of Field and Laboratory fire tests.

Write for Catalog "O"

DEALERS: Buy from your Monarch Jobber

Monarch MFG. WORKS, INC.
2503 E. ONTARIO ST., PHILADELPHIA 34, PA.
Canadian Sales Agents: (Except B.C.)
Canadian General Filters Ltd., Toronto 16, Canada

closed the burner stops. Model 180 has a storage capacity of 180 gals., furnishes 3 gpm of hot water through a 100 degree temperature rise. Firing rate of the oilburner is 1.5 gph. Larger sizes also can be furnished.

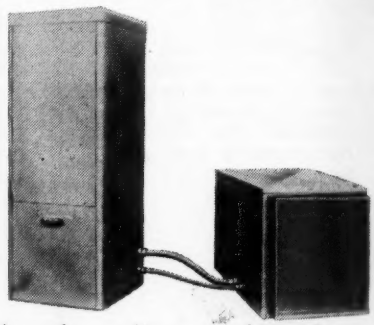
The unit heats water to any temperature set on an automatic water temperature control and employs copper tubing throughout.

Made by: Standard Boiler Co., 57 Sip Ave., Jersey City 6, N. J.

Circle E20 on page 125

Perfection augments cooling Line, announces year-round Conditioner

NEW HUPP 2, 3 and 5 ton air-cooled residential airconditioners with remote compressors are announced by Perfection Industries. Condenser features a special coil arrangement that sub-cools the refrigerant, while blower sections on the 2 and 3 ton models have been designed for installation above or below the cooling unit for upflow or downflow operation. The 5 ton unit's blower is permanently-mounted in the upflow position.



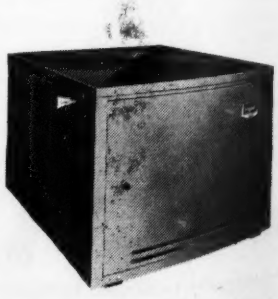
At the same time Perfection announced its model OH-90-V oilfired Lo-Hi Boy unit for year-round airconditioning. With the addition of the newly-designed summer airconditioning unit, the model OH-90-V provides heating and cooling. Equipped with a gun type oilburner, the furnace is shipped with factory-installed controls, all accessible from the front of the unit. Return air connections can be made at the left or right side or at the bottom, while the blower assembly slides forward and out on built-in tracks.

Made by: Perfection Industries Div., Hupp Corp., 7609 Platt Ave., Cleveland 4, Ohio.

Circle E21 on page 125

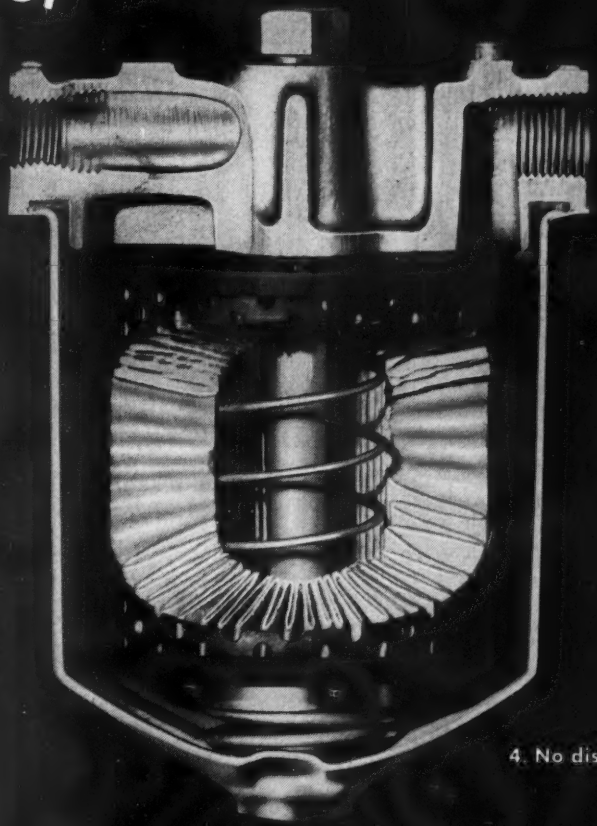
Bryant summer Airconditioners come in three Sizes; are air-cooled Units

SUMMER AIRCONDITIONERS announced by Bryant are offered in 1½, 2 and 3 ton sizes, each of which is an air-cooled unit. The basic model in the line is shown in the illustration. Units employ an airconditioning "package" inside the house, which is just slightly larger than a standard room airconditioner. Extra capacity is obtained by use of water removed from dehumidified air to supplement air-cooled condensing.



Unit may be installed with a minimum of ductwork, completely independent of the heating system or it can be

No other oil burner filter offers ALL of these 6 advantages


1. Waterproof and acidproof
2. .0002" filtration
3. No channeling
4. No distortion
5. Element fits most popular housings
6. One size fits all jobs

These six exclusive features have made Purolator PF-2002 Oil Burner Fuel Line Filter the most widely used by original equipment manufacturers in the combustion industry. Here's why:

1. Purolator's element is waterproof and acid-resistant, holding back sludge-forming water that clogs nozzles.
2. The Purolator element is uniformly dense. It is the only medium to provide micronic filtration to .0002.
3. This uniform density prevents channeling. There are no "soft spots" for oil to break through easily and thereby minimize filtration.
4. Purolator's micronic element will not shrink, distort, stretch, flake, or deteriorate when oil passes through. It will not wear.
5. Purolator elements fit most popular filter housings. The necessary gaskets for installation in other housings are included in the Purolator package, for the cost of the element.
6. Purolator offers a standard one-sized unit which is physically among the smallest elements available, yet has a capacity three times the largest element sold for domestic burners. This reduces stock and inventory problems.

The Purolator PF-2002 prevents nozzle clogging . . . cuts down fuel pump wear... lowers fuel consumption by improving combustion. Write us for further information and prices. Address Purolator Products, Inc., Rahway, New Jersey, Dept. OB3-212.

A FEW ATTRACTIVE DEALER AND JOBBER TERRITORIES ARE STILL AVAILABLE

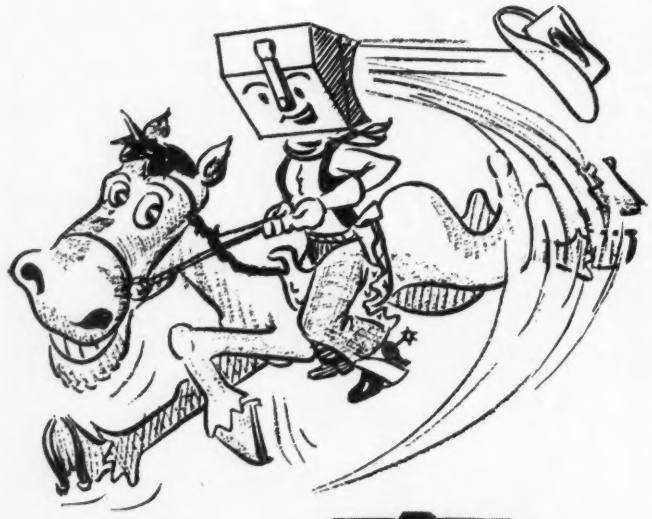
One of them may be in your area. But please send requests for confidential jobber and dealer information on your company letterhead.

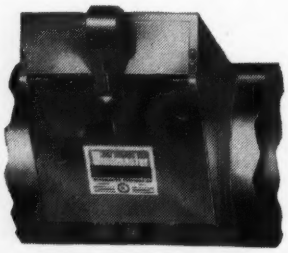
Remember, the Purolator PF-2002 element fits most popular housings. Stock and inventory problems are reduced—this one Purolator element with adapters is widely interchangeable.

PUROLATOR

"FIRST IN THE FIELD OF FILTERING"

The Modern Draft Control that's *"QUICKER ON THE DRAW"* and *"FASTER In The SADDLE"*





It's a cinch to get the Windmaster Draft Control "in the saddle" and on the job faster . . . silently riding herd over your installation so the burner operates smoothly and efficiently even under the most variable draft conditions.

Just cut a full sized hole in the pipe . . . assemble all parts before putting the control on the pipe . . . tighten the two draw bands . . . then adjust the calibrated weight. No pipe flanges to hammer . . . the flange is already on the control.

Once installed, Windmaster is "quicker on the draw". It's easy to see why. The 45° angle vane is poised for faster action which assures prompt relief at the slightest increase in draft without nervous j-i-t-t-e-r-s.

- 45° Vane—no nervousness—faster response.
- Permanently Silent Non-Rusting Nylon Bearings.
- Calibrated Counterweight.
- Large Square Vane—more effective area.
- Sloping Pipe Installations.
- E-Z 'Dapter—quick, easy installation.
- Permanent, Positive Vane Stops

Cash In On These Windmaster Features On Your Next Job

Consult Your WHOLESALER

Windmaster® Corporation

43 Vine St. Columbus 15, Ohio

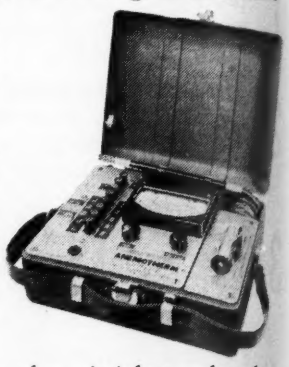
coupled with a forced warm air system. Available in a variety of optional packages to suit climate conditions, size and construction of homes and heating systems employed.

Made by: Bryant Div., Carrier Corp., Syracuse, N. Y.

Circle E22 on page 125

Anemostat air Meter is manufactured for heating, airconditioning Systems

A REDESIGNED portable "Anemotherm" air meter has been announced by Anemostat Corp. The meter gives instantaneous direct readings on air velocity, air temparture, and static pressure in heating and airconditioning systems.



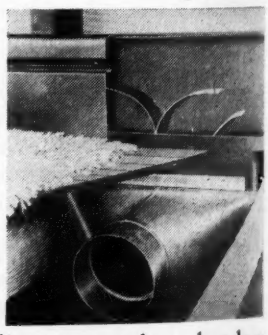
It measures velocity from 10 to 8,000 fpm in increments as small as 5 fpm; temperature to 225° F.; and static pressure directly in terms of inches of water from 0 to 8 negative and positive. It may be used in ducts, free spaces, and at air inlets and outlets, and is suited for both field and laboratory work.

Made by: Anemostat Corp. of America, 10 East 39th St., New York 16, N. Y.

Circle E23 on page 125

Berger's Perim-A-Base Panels offered for combination Heating and Cooling

PERIM-A-BASE units have been redesigned to provide combination heating and cooling from the same perimeter panel. Original panels are to be used for heating installations alone, with provision for conversion to combination heating-cooling by replacing the front panels.



The new PC panel during the heating cycle operates exactly as the original Perim-A-Base model, discharging heated air into the room at a divergent angle and at low velocity. The new panel also contains slots at the top of the discharge chamber, described as proportioned to emit cooled air at sufficiently high velocities to blanket the entire outside wall and travel uniformly upward to and across the ceiling.

Made by: Berger Furnace Corp., Belle Vernon, Pa.

Circle E24 on page 125

Iron Fireman announces four Sizes of new combination gas-Oilburners

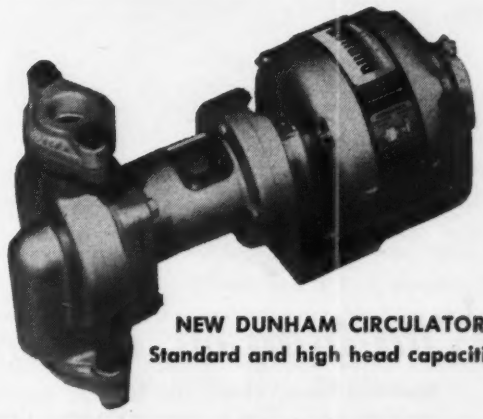
FOUR COMMERCIAL gas-oilburners have been introduced by Iron Fireman; these combination units are available at firing rates from 5 to 20 gph. Units, assembled, wired and tested at the factory, are shipped as packages, complete with controls, including an electronic combustion control

Why should YOU stock circulator couplings?

Since new Dunham Hot Water Circulators have a *single* spring coupling that never wears out under normal conditions, you can forget about stocking replacement couplings or replacing them! The single spring coupling in every Dunham Circulator is guaranteed for the lifetime of the circulator. But this is just one of the many reasons for the rapid rise in popularity of these compact, quiet circulators.

Dynetrically balanced, one-piece impeller is vibrationless at full rated capacity. Weep hole construction between self-centering, field replaceable seals and extra-large oil reservoir prevents water contamination of bearing lubrication section. Special, *brand-name* motor has built-in overload protection.

Dunham Circulators are easy to install, too . . . in horizontal or vertical pipes . . . in supply mains or return lines . . . regardless of boiler position. For further information on the Dunham complete hot water line, clip and mail the coupon.



NEW DUNHAM CIRCULATOR
Standard and high head capacities

DUNHAM® **HEATING & COOLING EQUIPMENT**

RADIATION • CONTROLS • UNIT HEATERS • PUMPS • SPECIALTIES

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Dept. FOH-2, 400 W. Madison Street,
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Send complete Hot Water Line Literature.

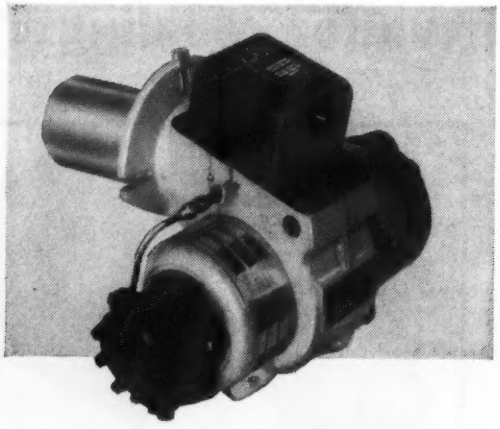
Name_____

Firm_____

Address_____

City_____ Zone_____ State_____

Meriting trust



Nu-Way oil burners

Meriting trust. That's how Webster defines "dependability." That's how customers describe Nu-Way Burners. Dependable components are used throughout, production run after production run.

Dependable motors. Dependable transformers. Dependable pumps. Every purchased part is built by suppliers of known quality reputations. No substitutes. Only the finest materials. In fact, some people think we carry this fanaticism about quality too far. Maybe we do. All we know is — our customers seem to like this "obsession" we have. They know they can trust Nu-Way to build burners that won't let them, or their customers, down. That is the basic fact to remember about Nu-Way Burners — they're dependable. They **merit your trust.** Nu-Way Corporation, Dept. FO-26, Rock Island, Illinois.

system. No secondary air dampers are required.

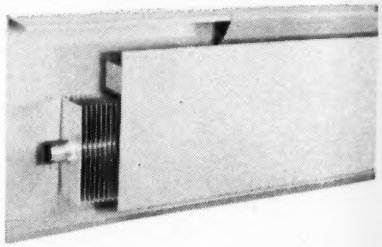
Changeover from one fuel to another is made by the flip of a fuel selector switch in these burners, which are equipped with Iron Fireman motors, sealed against dust and dirt and lubricated for life at the factory.

Made by: Iron Fireman Mfg. Co., 3170 West 106th St., Cleveland 11, Ohio.

Circle E25 on page 125

Ejay "Streamline" Baseboards have automatically adjustable Hangers

EJAY Model #600 "Streamline" baseboard has been added to the line. Besides its pleasing, modern design, the new model features movable hangers. They adjust themselves automatically with expansion and contraction; are designed to eliminate expansion noises.



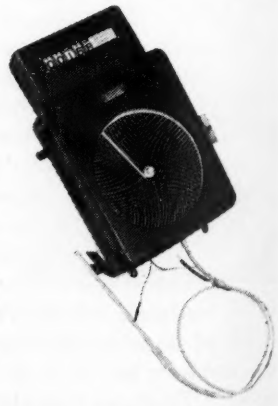
"Streamline" #600 is made of 18 gauge zinc, prime-coated steel front and back panels with a ¾" copper core containing aluminum fins, manufactured in standard 6 ft. lengths. It includes an easily-installed damper.

Made by: Ejay Baseboard Mfg. Co., 124 Boyd St., Winsted, Conn.

Circle E26 on page 125

Hidy Brown offers Unit to record degree-day Readings automatically

MODEL 90 Hidy Brown automatic degree-day recorder consists of a mercury-actuated recording thermometer whose stylus moves across a disc with silver contacts on it, the number of contacts increasing as the temperature drops. The contacts permit an electrical recording of degree-days on the unit's counter as they occur and indicates a cumulative total. Hence, Model 90 combines an outside-mounted temperature bulb, recording thermometer and a totaling meter. The unit was formerly manufactured by Tokheim Oil Tank & Pump Co.



There is availible also the Model 92 K-factor calculator, a compact slide rule, complete with instructions.

Made by: Hidy Brown Recorder Co., 6988 Five Mile Rd., Cincinnati 30, Ohio.

Circle E27 on page 125

Pullman now marketing Line of portable, electric Blowers

PULLMAN VACUUM CLEANER CORP. has announced its line of portable, electric blowers is now available to the heating trade. The blowers, acquired recently when Pullman pur-

chased the Electric Blower Co., have been designed for the plumbing and heating trade.

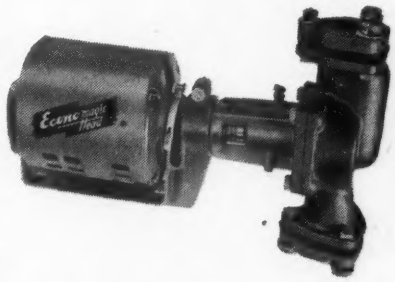
Units included are a portable blower with a special 4 ft. nozzle attachment for air punching boiler tubes. Literature is available on all models.

Made by: Pullman Vacuum Cleaner Corp., 33 Allerton St., Boston 19, Mass.

Circle E28 on this page

Econo Products designs new Motor for dual-use hot water Circulator

DESIGN CHANGES in the Econo Magic Heat Circulator incorporate a motor with a built-in thrust bearing that permits the circulating pump to be used as either a horizontal or vertical circulator.



The installer attaches the vertical oil cups to install the pump as a vertical circulator. The new combination cuts down on stocking problems. The pump has a full-powered motor and can be used with either ¾", 1", 1¼", or 1½" pipe flanges.

Made by: Econo Products Co., East Haddam, Conn.

Circle E29 on this page

READER SERVICE COUPON

FUELOIL & OIL HEAT READER SERVICE
2 West 45th St., New York 36
REPLY CARD FEBRUARY
Mail Now—Card Expires April 30, 1956

Circle numbers of new product items on which you want more information:

NEW PRODUCTS

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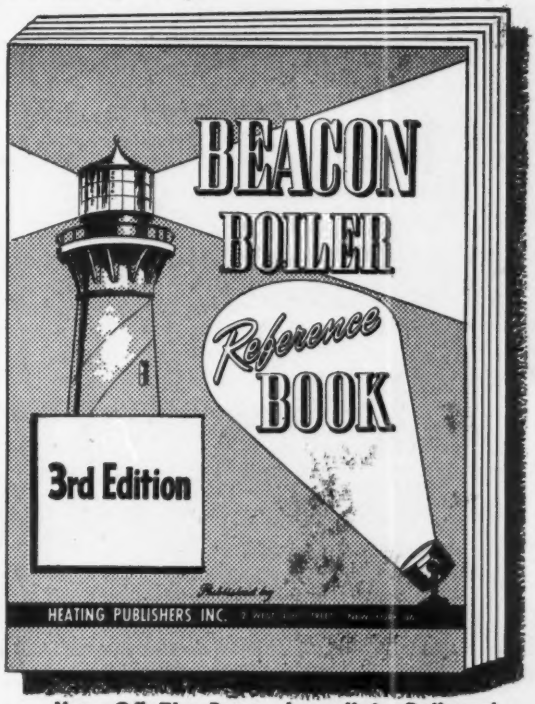
11,000 HEATING BOILERS — Edition of — 500 BOILER TRADE NAMES

BEACON BOILER REFERENCE BOOK

Dealers, Service Men, Heating Contractors, all Heating men will find it a vast reservoir of help—



Now Off The Press—Immediate Delivery!

This new Third Edition contains much more data than the second edition which was published many years ago. The size is 8¼ x 11¼ — very handy and convenient, it contains more than 200 pages and carries ratings on domestic heating boilers up to 3,000 sq. feet of steam and equivalent Hot Water.

All ratings are taken from the Manufacturer's own statements of specifications and technical information.

Heating Contractors and all persons engaged in installation of boilers, including Dealers, Salesmen, Estimators and Service men, have highly endorsed the accuracy of information and stated how much help they derived from the contents of Beacon Boiler Reference Book.

You, too, we are certain, will also find it very valuable, helpful and profitable.

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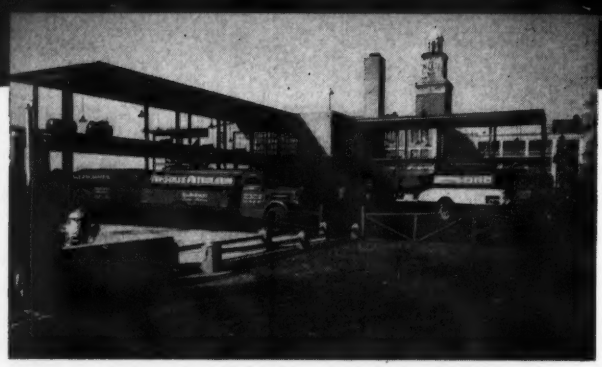


From wide windows, control clerk oversees all operations. Traffic flows smoothly through cross-shaped plant with help of loud speaker system. Centrally located in Flushing, N. Y., the wholesale plant serves hundreds of fuel oil distributors.

Now in Eleventh Year...

Neptune Remote Control Meters

prove big Savings for Island Petroleu

Because it gets trucks rolling minutes faster, the Neptune Re Control Metering System at this Island Petroleum Corporat terminal permits loading 400 trucks a day! All operations firmly controlled from inside the office. Each of the remote con ticket-printing registers in the office is accurately synchronized w a rack meter outside. Automatic interlocks prevent withdrawal product until authorized by inserting a ticket and clearing proper register. The printed tickets save many steps in accoun and billing operations.

The plant was opened in 1945. Some of the Red Seal me have registered more than 100 million gallons, with an excel record for sustained accuracy and low maintenance. For det of this business-building, cost saving system, write today.

NEPTUNE METER COMPANY
19 WEST 50TH STREET · NEW YORK 20, N. Y.

neptune
RED SEAL METERS

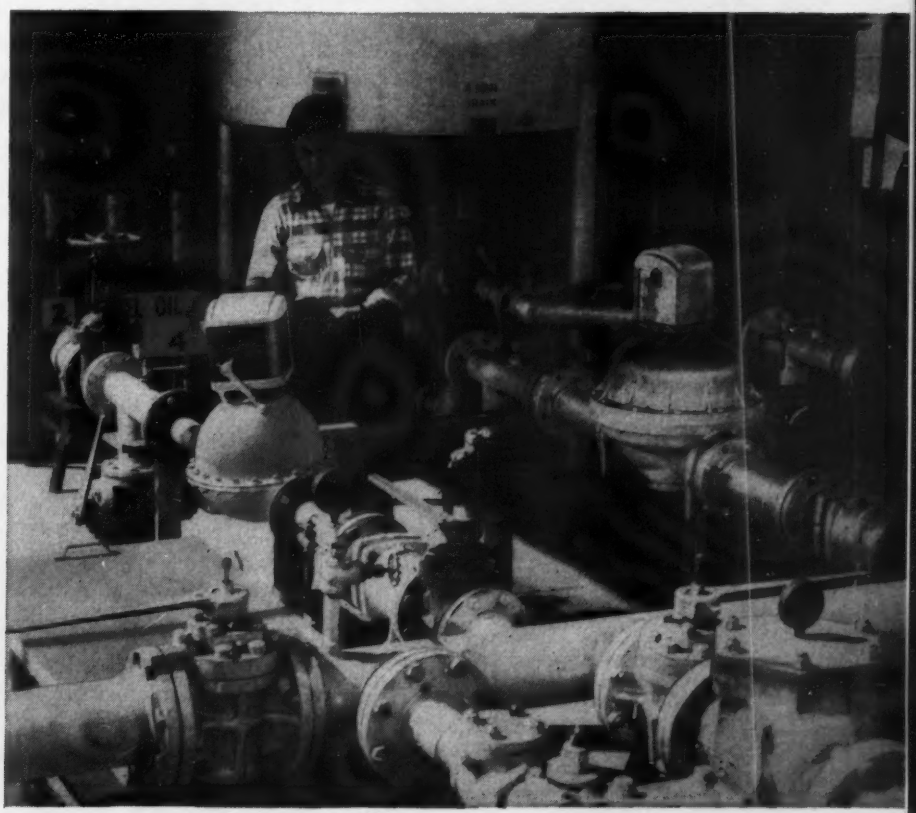
What Red Seal Meters are doing for others:

ble installation . . . ability to adapt in the field to right or left- d or angle-type installations . . . is just one of many reasons Seal "compacts" are preferred for dual-metered tank trucks.

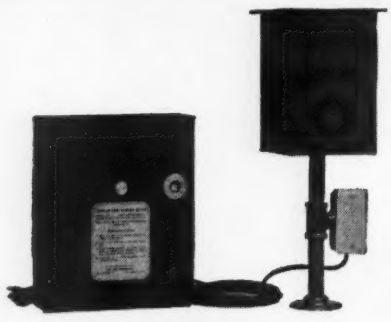
Where accuracy counts most: Guided by critical experience, the State of Iowa has again selected Red Seals as the master meters in their new trailer-mounted calibration units . . . another expression of confidence in Neptune's sustained accuracy.

Our Red Seals have given us excellent performance . . . never any ouble", says D. L. Besanceney, Operations Manager of Conserva- ve Gas Corp'n, New Hyde Park, L. I. In LP-Gas, too, Red Seal eters lead, with a meter designed specifically for the job.

urate operating and stores records for railroads are vided by Red Seal Print-O-Meters installed at refuel- stations for Diesel locomotives.



At Neptune's modern "proving grounds," the wear and tear of a lifetime are compressed into a short period to see how these new meters will stand up in actual service. After 35,000,000 gal., meter at right is still going strong!



ACCURATE DEGREE DAY INFORMATION

Automatically Computed

The Johnson fuel demand meter indicates the net effect of sun—wind and temperature on fuel oil consumption. Smooth out your degree day deliveries!

WRITE:

M. LEE JOHNSON

Johnson Degree Day Systems

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Proved by USE!

Works in seconds! **Loosens Rusted Bolts** *nuts, screws, "frozen" parts . . . . without breakage!*

LIQUID WRENCH

A powerful blend of quick-acting solvents that frees "frozen" parts without breakage. Safe for all metals and alloys.

Makes joints **LEAKPROOF!**

7 BASIC BLENDS

TiteSeal

GASKET & JOINT SEALING COMPOUND

Makes all assemblies leakproof and pressure-tight. Easy to apply with brush-in-handle.

- NON-SOLVENT—WILL NOT HARDEN
- WILL NOT SHRINK, CRACK OR CRUMBLE
- HEATPROOF AND VIBRATION-PROOF

Get them from your Automotive, Hardware or Plumbing Wholesaler!

RADIATOR SPECIALTY CO.

Charlotte, North Carolina

Manufacturers Activities

National-U. S. Conference reveals Details of Merger

A PRESS CONFERENCE held at the Johnstown, Pa., headquarters of the National-U. S. Radiator Corp., enabled representatives of trade magazines and local newspapers to inspect corporation activities and become acquainted with the details of the merger of The National Radiator Co. and the U. S. Radiator Corp.

The merger took place last April 1 and after nine months of combined operations, Theodore B. Focke, president, revealed it has been possible to reduce the number of plants in operation from 15 to 11; engineering activities have been consolidated in Johnstown; consolidation of heating lines has been completed with an entire new set of catalogs issued on the combined lines.

Focke also went into detail on the reasons for the merger, two of which anticipated correctly that a merger could dispose of excess plant capacity and do away with a large duplication of sales effort. In addition there could be effected economies in administrative costs.

L. N. Hunter, senior vice-president for research, explained details of the combined engineering department, which now has 100 members working on product design and basic research. Hunter pointed out that the National-U. S. line represents a consolidation of the best features of both lines, redesigned to lose their former identity and augmented by additional product developments.

Other achievements since the merger Hunter said were the increased and integrated laboratory facilities now available, plus a wider scope in research than could have been possible for either individually, particularly in the airconditioning equipment being developed.

A report from J. C. Haas, vice-president for manufacturing, described the functions of the eight sales divisions operating, including the location of their factories and the products made.

Finally, C. M. Baumgardner, senior vice-president for sales, reported on the sales organizations of the National U. S. Radiator Corp., listing them as Heating and Airconditioning Div., Johnstown; Pacific Steel Boiler Div., Johnstown; Viking Div., Cleveland; Cyclotherm Div., Oswego, N. Y.; Special Products Div., Johnstown; Drayer-Hanson Corp., Los Angeles, Cal.; Plastic Metals Div., Johnstown and Heat Transfer Div., New York City.

Baumgardner attributed 60% of the total volume of sales to the Heating and Airconditioning Div. and explained that three sales districts have been created in the eastern section of the country, along with 24 consolidated branch offices. The sales districts are New England, Greater New York and Pittsburgh.

Caravan of Service to visit heating Dealers for Webster

A SERVICE showroom-on-wheels sponsored by Webster Electric Co., Racine, Wisc., has hit the road for a nationwide tour of heating dealers in key markets.

A large van, similar to a bus, has been converted into a showcase for many working exhibits designed to show inside-the-fire operations of modern oilburner systems.

Going on the tour are Louis Ehrich and L. E. (Tom) Woolf, field service engineers; George Brinkerhoff, manager, wholesale sales; and John Kralicek, wholesale salesman.

Featured exhibit in the Caravan is an oilburner under fire to show the open combustion chamber, surrounded by firebrick, and the operation of Webster's Delaytrol, delayed-opening oil valve. Another prominent exhibit is a piping demonstration unit depicting a variety of means of connecting fuel units on one or two-pipe systems with the oil storage tank above or below the unit. Others include a work bench and test stand, demonstration of ignition transformers and a sideshow of products and cut-a-way exhibits.

A Webster tape recorder provides background music during the demonstrations and also is used to record comments and suggestions of visitors to the Caravan.

DISCUSSION TOPICS

Combustion of Fueloil

Industrial Oil Burners

Electric Control Systems

Ignition Methods

Draft and Combustion Control

EXPERT ADVICE IS NEEDED TODAY...

...TO MAKE MORE PROFITS ON INSTALLING AND SERVICING OIL BURNERS— AND THIS NEW REVISED EDITION OF "OIL BURNERS" WILL PROVIDE YOU WITH COMPLETE INFORMATION ON THE MOST MODERN ELECTRONIC OIL-BURNER CONTROL DEVICES, YOU'LL FIND THE ANSWERS YOU NEED IN THE PAGES OF THIS HANDY HANDBOOK ON "OIL BURNERS." TOPIC AFTER TOPIC IS DISCUSSED IN THE TWENTY-TWO CHAPTERS AND DESCRIPTIONS, DATA, DIAGRAMS, AND CHARTS COVERING ALL MAJOR TYPES OF OIL BURNING EQUIPMENT, FOR ON-THE-JOB USE OF DESIGNER INSTALLER, SERVICEMAN.....EVERYONE CONCERNED WITH OIL HEATING.

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502 PAGES, TWENTY-TWO CHAPTERS WITH ILLUSTRATIONS, CHARTS AND GRAPHS - $5.00 POSTPAID.

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Eddington

"A JOB WELL DONE"

When you install an Eddington Filter, thereby protecting the valuable investment of your customer, you will have earned his good will, his future business, and his whole-hearted approval of "A JOB WELL DONE".

- Sturdy light-weight aluminum construction
- Thorough filtration with a staggered surface cartridge
- Simplified installation design
- Completely interchangeable with other makes
- Water and acid-proof components
- Extra large sump for sludge and water separation

Insure your installations with positive protection against clogged nozzles and unnecessary shut-downs due to water.

Install an Eddington Filter on every job!

OHI

EDDINGTON METAL SPECIALTY CO.
Eddington, Pa.

Write for complete information and prices.

. . . . Manufacturers' Activities

Milwaukee Agency is named to handle Heil Advertising

THE HEIL CO., Milwaukee, has named Bert S. Gittins Advertising, Inc., also of Milwaukee, to handle advertising for its Body and Hoist Division, Tank Division, Dehydrator Division and Export Division.

E. L. Kimball sells Building and Inventory to Sid Harvey

THE OWNER of the E. L. Kimball Co., Malden, Mass., Everett K. Kimball, is retiring and the company's building and inventory has been sold to Sid Harvey of Mass., Inc.

Sid Harvey's new main office will be at 1256 Eastern Ave., Malden 48, Mass., where Kimball's was formerly located. Fred Keep has been elected vice-president for sales of Sid Harvey of Mass., Inc., according to M. P. Bernard, president, and Sid Harvey, chairman of the board.

There will be no change in Kimball personnel. However, the inventory will be increased by the addition of rebuilt transformers, motors and controls. Sid Harvey operates stores in Boston, Springfield, Worcester, Lowell and Providence.

W. G. Frank named President of American Air Filter Co.

W. G. FRANK, formerly executive vice-president, has been named president, American Air Filter Co., Louisville, Ky. W. M. Reed moves up from president to the newly created position of chairman of the board.

Ben R. Shaver was elected vice-president and treasurer and E. G. Mason named secretary.

Frank has been with the company since it was formed in 1929 and became executive vice-president in 1948. Reed was the founder of the Wm. Reed Engineering Co., which was consolidated into American Air Filter.

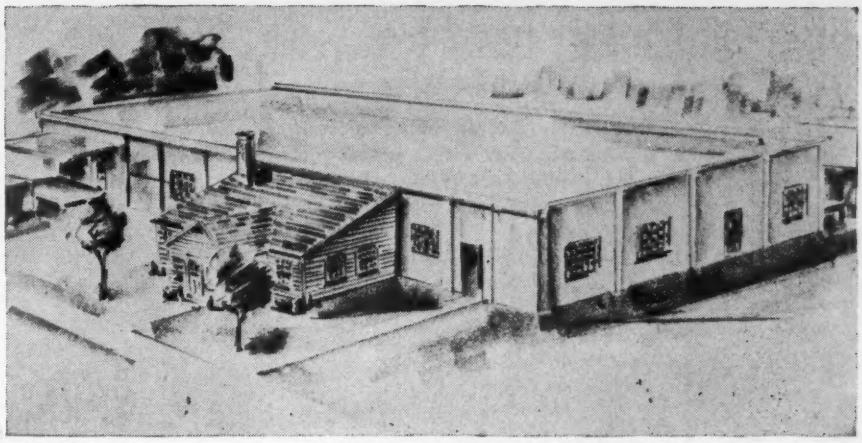
Galleher appointed to expand Conco sales promotion Program

AN EXPANDED sales promotion program for its heating and cooling equipment line is being planned by the Conco Engineering Works, Division of H. D. Conkey & Co., Mendota, Ill., according to J. W. Burch, Conco-Heat sales manager.

H. C. "Jack" Galleher was recently appointed sales promotion manager to direct the program which will consist of sales aids for dealers at the retail level, direct mail material, displays and material for local newspapers, radio and TV stations.

Ford station wagons *will be used by district managers D. S. Montgomery and John Irwin for product demonstrations and exhibitions of airconditioners made by Armstrong Furnace Co., Columbus, O. Mounted on runners in the beds of the two station wagons are the complete condensing units and evaporator sections of two ton residential airconditioners. The units can be pulled out into full view.*

Shown *left to right: Irwin, accepting the keys from W. J. Olsen, president and general manager; and Montgomery getting his from G. W. Zimbelman, assistant general manager.*



A new plant *is now under construction in East Longmeadow, Mass., which will house expanded facilities for producing unassembled duct and duct fittings made by the Duc-Pac Division, Swett Bros., Inc. Russell Swett, president, supervised the design of the 16,000 sq. ft. building which is located on a site large enough for future expansion.*

Dealerama, Show on Wheels, to introduce Williams Line

THREE CARAVANS, each housed in a huge moving van, will be used to introduce the new line of automatic heating equipment made by the Williams Div., Eureka Williams Corp., Bloomington, Ill.

Called "Dealerama" the presentation will visit 63 cities. Each caravan will be on the road for seven weeks and will do 21 shows. The shows will be on Mondays, Wednesdays and Fridays; the other days of the week will be used to set-up and dismantle equipment for travel.

The complete line of oilfired burners, boilers and furnaces, and airconditioning equipment will be shown at each stop. Meetings will be held at local hotels.

Each of the vans will carry 25 pieces of Williams equipment.

The caravans started on January 30 in Altoona, Pa., Bloomington, Ill. and Davenport, Iowa. Each then is to continue to reach other principal cities in its own area, with the last performance for each caravan scheduled for March 16.

Rheem merges with Richmond Radiator; will expand Line

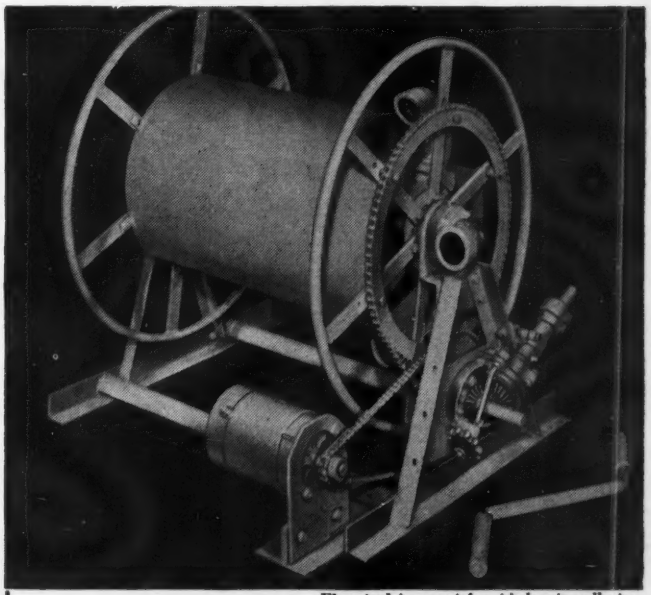
RHEEM MANUFACTURING CO., New York, will expand its home products line by merging with Richmond Radiator Co., New Castle, Del. The merger was announced by R. S. Rheem, president, and John J. Hall, Richmond president, and is subject to stockholders' approval.

Rheem manufactures water heaters, warm air furnaces, airconditioners and space heaters. Richmond is a manufacturer of plumbing fixtures.

Besides broadening the Rheem line the merger will provide national distribution for Richmond products.

Unrestricted Flow

PHILADELPHIA HOSE REEL proves leakproof after 1½ million revolutions



Electric driven reel for side box installation

Self-tightening seal enables it to stand up under toughest, heaviest work loads

The finest hose reel ever built for fuel oil, gasoline, compressed gases and chemicals. Will never wear out. Exhaustively tested.

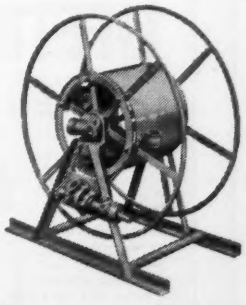
No leaking, no sweating after a million revolutions at pressure from zero to 100 lb. per sq. in.

A new, self-tightening seal in swing joint is the secret. This seal is easily, quickly replaced without breaking lines.

Features include light weight (85 lb.); holds 100 ft. of 1¼" hose; swing joint with clear, uninterrupted passages; every part steel, malleable iron or bronze—no cast iron; rigid base, welded throughout; six ball bearings on every reel; all working parts accessible; reel can be quickly unbolted.

This hose reel is made in all sizes from 1" to 3", for bucket or underslung box installation. Available with standard or explosion-proof electric motors, any voltage; air or hydraulic drives. We can equip them with automatic stop, level winder, friction, jaw, or electric clutches if desired.

Delivery usually within one week. Write for prices and details.



Hand-wound reel for rear box installation

PHILADELPHIA VALVE COMPANY
3413 ARAMINGO AVENUE • PHILADELPHIA 34, PA.
Pacific Coast Distributors:
Oil Marketing Equipment Co., 325 Fremont Street, San Francisco 5, Calif.
Howard Suppl Co., 5125 Santa Fe Avenue, Los Angeles 11, Calif.

Use "CRESCENT PARTS" Service

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"FACTORY REBUILT" Repair Exchange control service on all popular makes at regular manufacturers list prices and trade discounts.

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& Accessories
Heating Specialties

. . . . Manufacturers' Activities

Truck operating cost record Book issued by White Motor

THE REVISED "Cost Record Book" has been issued by The White Motor Co., Cleveland, O. The book provides a simple system of analyzing truck operating costs and can be tailored to any size fleet.

The system is adaptable to either delivery service or highway operation. A copy may be obtained from the company in Cleveland.

New Lewyt Distributors attend sales and advertising Meetings

FOUR NEW DISTRIBUTORS were recently named by Irving Bottner, vice president, to handle built-in wall airconditioners made by the Lewyt Corp., Brooklyn, N. Y. The product was introduced to sales and advertising personnel at meetings during January and February.

The distributors are Allied Electric Distributing Co., Pittsburgh, which will cover Western Pennsylvania, Eastern Ohio, Northern West Virginia and parts of Maryland. Stern Brothers, Cleveland, will cover Northeastern Ohio.

Harry F. Haldeman, Inc., Los Angeles, will cover Southern California and Las Vegas. Pioneer Appliance Co., San Francisco, has been assigned Northern California and Reno, Nev.

Armstrong annual sales Meeting hears Forecast for banner Year

THE WEEK-LONG annual sales meeting of the Armstrong Furnace Co., Columbus, Ohio, was highlighted by a prediction from W. J. Olsen, president and general manager, forecasting that "1956 is going to be a year that will surpass any to date for Armstrong in the sale of residential furnaces. Couple this with an estimated doubling of the market for summer airconditioning, and there is no doubt that the industry is looking forward to a banner year."

All Armstrong district managers attended the meeting, which introduced a comprehensive advertising and sales promotion program, built around the theme, "Armstrong guys merchandise." Olsen reviewed sales advances made by Armstrong during 1955 and expressed concurrence with management leaders who optimistically foresee continued improvements in major phases of the nation's economic structure.

1955 Storms push Sid Harvey's rebuilding Business to new high

A 20 PERCENT increase over the previous year in the rebuilding of oil-burner parts was reached by Sid Harvey, Inc., Valley Stream, N. Y., in 1955.

Rebuilt transformers had the biggest increase percentagewise, 52%. This was accounted for by the disastrous floods and hurricanes suffered by the East during the year. Rebuilt low water cut-offs, water feeders and constant level valves all were up about 40% over last year.

HAYWARD
Rotary Atomizing Burners
¾ to 12 Gph
Boiler-Burner Units
400 to 730 Sq. Ft. EDR Steam
Pressure Atomizing Burners
¾ to 10 Gph
Boiler-Burner Units
200 to 2000 Sq. Ft. EDR Steam

HAYWARD OIL BURNER

Write for franchise information:
HAYWARD OIL BURNER CORP.
86 Kirkland Street, Cambridge, Mass.
Factories in Brooklyn, N. Y. and Taunton, Mass.

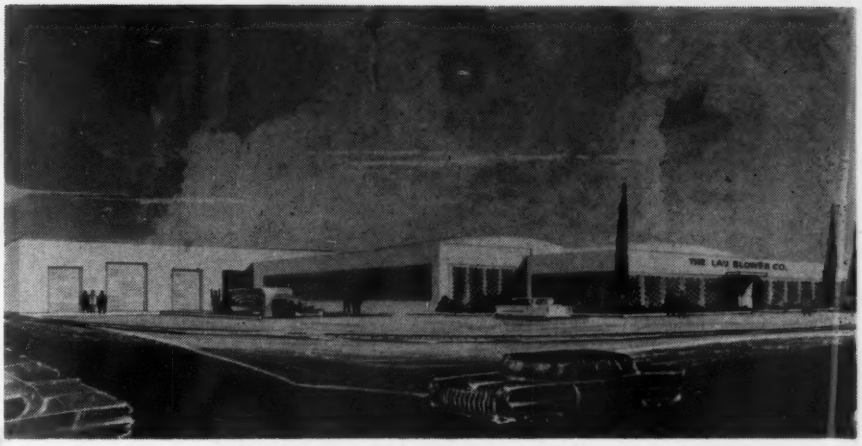
LIFETIME FILTER

3 simple steps to clean:
1. Remove 2 wing nuts.
2. Hold filter element under hot water faucet for a few minutes to remove dirt and impurities.
3. Empty water and heavy residue out of cup — reassemble filter.

A-P TRAP-IT MODEL 243 SY
FOR ALL GRAVITY-TYPE AND POWER BURNERS using up to 5½ gph of No. 1 or 2 fuel oil.

Install profitable trouble-free Trap-it on that next job
A-P CONTROLS CORPORATION
2458 N. 32nd Street, Milwaukee 45, Wis.
In Canada: A-P Controls Corp., Ltd., Cooksville, Ont.

Production *of grilles and registers has begun at the new addition to the Azusa, Calif., plant of Lau Blower Co., Dayton, O. Production of blowers and blower parts will begin during the first quarter of 1956. Samuel Hipple, vice president, is in charge of all West Coast operations. Local plant manager is Richard Mahuron; west coast sales manager is G. R. Mergenthaler.*



Bloomington factory Meeting held by Eureka Williams Co.

THE FIELD SALES and service staff of the Williams Division, Eureka Williams Co., attended a four-day factory meeting at Bloomington, Ill., which began January 3.

The new line of automatic heating and airconditioning equipment was introduced, and details of the 1956 advertising and promotion campaign were explained.

Among the company executives addressing the group were H. J. Allemang, executive vice president; O. E. Nesmith, manufacturing vice president; C. B. Smithson, director of engineering and research; and Tom Green, merchandising director.

Titus Manufacturing Corp. is merged with Titus, Inc.

AS OF DECEMBER 30 the Titus Manufacturing Corp. and Titus, Inc., both of Waterloo, Ia., have merged and will carry the former name.

Grilles, registers and diffusers for all types of residential and commercial airconditioners will be made at the company's new factory.

D. L. Titus is president; R. W. Titus, vice president and J. S. Smith, vice president in charge of sales.

Iron Fireman issues Bulletin on SelecTemp Units for Motels

A THREE-COLOR, eight-page bulletin describing the special application of SelecTemp heating to motels has been issued by Iron Fireman Manufacturing Co., Cleveland, O.

Pictures and text show the advantages of the system to motel operators.

CROWN your Installation with THE **GALONGAGE!**

Outstanding in its field, *Galongage* design, construction and appearance does credit to the finest heating installation. Because *Galongage* measures in gallons . . . has large, easy-to-read numbers . . . requires only 4-inch head clearance . . . comes fully assembled . . . is approved by Underwriters' Laboratory.

When ordering specify depth of tank and size of opening.

APPLIED MECHANICS COMPANY
381 CONGRESS STREET, BOSTON, MASSACHUSETTS

NEW IMPROVED *Vaporite*

Automatic Humidifier

Fits any straight side warm air furnace

Series 555

Corrosion Resistant Stainless Steel Vapor Pan 4" x 15"

ONE SIZE . . . ONE KIT ASSURES LOWEST COST INSTALLATION AND MINIMUM INVENTORY EXPENSE

Vaporite No. 555 Humidifier comes completely assembled in one package. No extras to buy . . . no parts to assemble . . . no extra holes to cut . . . no pan leveling or tricky mounting.

NEW IMPROVED VALVE — Provides more positive drip-feed thermostat operation. Water drips fastest when furnace is hottest . . . pan is dry when furnace is cold. Adjustable for precise vaporization needs of each installation.

Write for Catalog FO-2

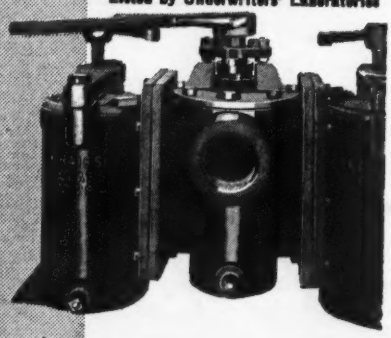
AUTOMATIC HUMIDIFIER CO., Cedar Falls, Iowa

Yula
Automatic, Thermostatic
MIXING VALVES
Ideal for Domestic Water Control
"The Mixing Valve Pioneers"
YULA WATER HEATERS, INC.
330 BRYANT AVENUE NEW YORK 59, N. Y.

NOW with PerfXray Controls . . .
FLAMEMASTER

Relay is mounted on the burner (KO's stack temp. problems). Flame detector is mounted in the air tube. Does not interfere with air flow. No electronic tubes.
Investigate today.
• NO STACK MOUNTING • SAVES MATERIAL • NO CALL BACKS
• NO STACK WIRING • SAVES TIME • FASTER RESPONSE
SOUTH SIDE ELECTRIC SUPPLY CO.
5910 S. Halsted St.
Chicago, Ill.
METROPOLITAN EQUIP. SUPPLY CO. 827 W. 30th Indianapolis, Ind.
TEWS DISTRIB. CO. 4153 N. 10th Milwaukee, Wis.
FLAME-MASTER CO. 3118 N. Milwaukee Chicago, Ill.

* SINCE 1926 * in the application, design and mfg. of pumps — separators — hydraulic accessories.
Simplex & Duplex SEPARATORS
Listed by Underwriters' Laboratories



STRAINERS • FILTERS • STANDARD AND HIGH PRESSURE
eliminate filter replacement costs and supply problem
Kraissl separators completely eliminate costly replacement of expendable-type filters—and reduce your critical supply problem. No tools needed to restore original efficiency within minutes — bronze wire-cloth basket is instantly and easily removed for cleaning, keeping maintenance costs to minimum.
Specify Kraissl separators on your next installation—design Kraissl economy into your own burners . . . for any practical degree of separation — from straining to filtration.
Complete range of sizes—from 1¼" to 6"; pressures to 500 psi. Cast-iron, bronze, steel, stainless-steel, aluminum, monel or special metals to your specifications.
Bulletin A-1214 gives full data—write for your copy today!
KRAISSL KRAISSL CO
295 Williams Ave., Hackensack, N. J.

Tankit Co. announces Purchase of Magne-Patch

TANKIT CO., Newark, N. J., has purchased the entire business of Magne-Patch Co., Floral Park, N. Y., including the trade name and Patent No. 2,727,650.

Tankit for some time has been manufacturing tank repair kits and Neutroda fueloil deodorant. Magne-Patch more recently introduced a magnetic patch to seal leaks in basement fueloil storage tanks.

Permaglas to mark production Milestone with heater Gifts

WHEN THE three-millionth water heater comes off the production lines of the Permaglas Division, A. O. Smith Corp., Kankakee, Ill., early in 1956, gifts of water heaters will celebrate the occasion.

On that day any baby born to a family named Smith will earn for his mother and father a 30-gallon, deluxe "Permaglas" water heater, complete with installation.

Dealers who install the appliance in the Smith homes also will receive a free water heater of the same model. Statistics indicate that about 110 babies will be born to families named Smith on that day.

Indiana distributing Company becomes a Division of Shell

SHELL AMERICAN Petroleum Co., distributor of Shell products in northwestern Indiana, is now the Shell American Division, Shell Oil Co.

P. H. Durham is vice president and general manager of the Division with headquarters in Kokomo. The company was formed in 1921 as the Great American Gasoline Co. and changed its name in 1927.

Heat pump Manufacturer merges with Hupp Corp.

A FLORIDA MANUFACTURER of heat pumps, Typhoon Prop-R-Temp, Tampa, has been merged with Hupp Corp., Detroit, according to E. L. Garfield, Typhoon president.

Directors of both companies have approved the purchase and Prop-R-Temp shareholders will receive common stock of Hupp in return for their holdings.

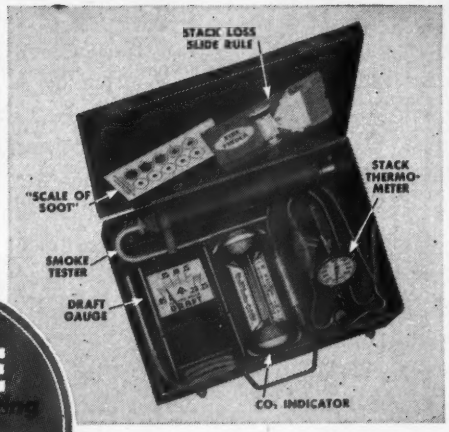
L. K. Newell and Associates buy Automatic Firing Corp.

CONTROL of the Automatic Firing Corp., St. Louis, Mo., has been acquired by L. K. Newell and Associates. The company will now be known as the Automatic Corp.

L. K. Newell was elected president and James J. Lee, vice-president in charge of sales. The company's line of heating and cooling equipment for 1956 was recently announced.

Plans are underway to increase the sales representation throughout the United States. Twelve additional representatives will introduce the new line to the dealer organization.

Manufacturing facilities have been increased for the company which was a pioneer in the air-cooled equipment field.



The FYRITE UTILITY KIT ... PACEMAKER FOR PROFITS from Expert Tune-up Service

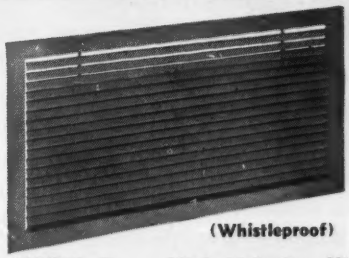
Making the most of your ability to do an expert tune-up job will pay you big dividends in gaining you competitive leadership and neighborhood recognition of your competence as a heating expert. The combustion-testing kit shown here contains precision-made quality instruments with which you can make fullest use of your know-how in making a fuel conservation survey, checking a burner for wornout parts and needed repairs, or running an efficiency test to close a replacement deal.

The kit contains the well-known FYRITE CO_2 Indicator, the versatile MZF Draft Gauge, the all-metal TEMPOINT Stack Thermometer and the sensationally new TRUE-SPOT Smoke Tester. Now, for the first time, you can adjust an oil burner quickly and expertly for highest CO_2 without objectionable smoke . . . do away with guesswork, and "hit and miss" fumbling in adjusting for clean firing. The "Scale of Soot" which comes with the TRUE-SPOT tells you the limits of permissible smoke for various burners and types of heating systems. This amazingly simple method of oil burner adjustment is the greatest advance in combustion testing since the introduction of the FYRITE. You will be proud to be among the first to own this "up-to-the-minute" combustion-testing kit.

For complete information on this and other new tune-up equipment—write for Bulletin 777

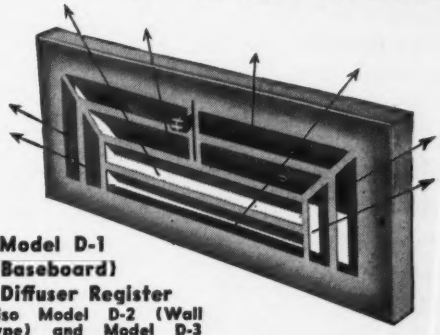
BACHARACH INDUSTRIAL INSTRUMENT COMPANY

7301 PENN AVENUE • PITTSBURGH 8, PA.



(Whistleproof)

MODEL R — High Velocity, High Efficiency Return Air Grille. 89% Free Area. Any Size Desired.



Model D-1 (Baseboard) Diffuser Register

Also Model D-2 (Wall Type) and Model D-3 (Out-of-Wall Type)

SIZES:

10x4	12x4	14x4
10x5	12x5	14x5
10x6	12x6	14x6

Besides Diffuser Type registers the National Line includes all types and sizes of registers and grilles. **Write for Catalog.**

National GRILLE AND REGISTER CO.

3169 East 80th Street Cleveland 4, Ohio

Stop Oil Leaks

...in oil storage tanks, pipes or containers, oil-filled transformers... even while oil is flowing!

Here is the quick new way to stop oil leaks instantly. Just rub OYLTITE-STIK into the leak and it's sealed. Doesn't become brittle; is not affected by heat or cold; withstands normal vibration. On every job, every service call, take OYLTITE-STIK along. See your jobber, or write us for full information.

LA-CO BRAND LAKE CHEMICAL CO.

3077 W. Carroll Ave., Chicago 12, Ill.

Smoother Operation...Longer Life for your FANS and PUMPS

LOVEJOY Double Flex FLEXIBLE COUPLINGS

There is no surer way to get quiet, vibrationless operation . . . long, efficient performance than by installing *and standardizing* on Lovejoy Double Flex Flexible Couplings. Quickly installed. Easily serviced. Ideal for close-quarter applications.

Investigate why leading manufacturers specify Lovejoy jaws on fan hubs. Send today for bulletin and prices.

LOVEJOY FLEXIBLE COUPLING CO.

4812 W. LAKE ST. • CHICAGO 44, ILL.

Three new Executives named by Delta Heating Corporation

ALBERT L. NATHAN, president, Delta Heating Corp., Trenton, N. J., recently announced the appointment of three new executives.

They are as follows: Norman M. Emslie, chief design engineer; William T. Goldsmith, marketing manager; and Thomas A. Temple, office manager.

Emslie had been associated with the Institute of Advanced Study in Princeton University; the Palmer Laboratory at Princeton and the Columbia University Radiation Laboratory. Goldsmith was formerly with General Electric, and Temple had been with the Metal Drying Form Co.

Sales and service Engineers join M-H's Industrial Div.

SALES AND SERVICE engineers recently graduated from training school have been added to Minneapolis-Honeywell Regulator Company's Industrial Division. J. A. Robinson, field sales manager, announced that 21 sales engineers and 19 service engineers have been assigned to branch offices.

The new appointees include: William Bater and Robert W. O'Reilly, Philadelphia; David B. Beasley, Toronto; Walter E. Biewer and Robert E. Day, Los Angeles; Robert J. Byers, Milwaukee; A. P. Ciprari, International Division, New York; Alan L. Colter, Buffalo; John L. Dyer, Cincinnati; Merton H. Fischer, International Division, Minneapolis; Michael N. Francher, Syracuse, and Eugene D. Haugen, Seattle.

Also, Charles C. Hulsey, Columbia; Charles B. MacRae, Houston; Robert J. Owen, Cleveland; John B. Prouty, Columbus; Harvey F. Renee, Indianapolis; Bertram R. Robinson, Union; Russell W. Skinner, Pittsburgh; Jack D. Stickley, Oklahoma City, and Richard E. Swenson, Twin City.

Lau Memorandum deals with belt and bearing Failures

A GENERAL MEMORANDUM to blower salesmen and users which presents proper installation and service methods for blower belts has been issued by the Lau Blower Co., Dayton, Ohio.

Written by J. B. Burrowes, Lau's chief engineer, the memo points out that most belt and bearing failures in heating and airconditioning blowers are caused by improper belt tension and misalignment of the pulleys.

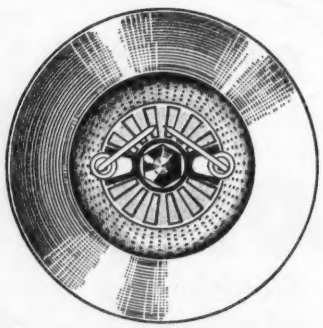
Noting that when properly installed, a belt will allow deflection of about one inch when grasped with the hand with the two sections of the belt being drawn towards each other, Burrowes recommended that the tension be checked before putting the blower into operation. This check was needed, Burrowes felt because many manufacturers deliberately tighten the belt to hold the motor in position during shipment.

On the subject of pulley alignment, Burrowes pointed out that a close check should be made by using a try-square to make sure the pulley are accurately lined up.

By following these simple procedures, Burrowes emphasized that time, money, and effort would be saved later on.

I give my customers the BEST!

Correct PULSATION and POOR CO_2 with a BOSTON COMBUSTION HEAD



Adaptable to any pressure atomizing burner. .75 to 3.0 G.P.H. This precision head is now available. Adjustable air shutters permit obtaining high efficiency sunflower flame or efficient non-pulsating flame.

Comes complete—easily installed.

A PROFIT MAKER

Write for literature and instruction sheet.

BOSTON MACHINE WORKS COMPANY
Oil Heating Supplies Division, 7-17 Willow St., Lynn, Mass.

SOOT A WAY

CLEANS ALL OIL & GAS FIRED FURNACES — BOILERS

Harmless to A Heating Plant
Removes Soot Down to Metal

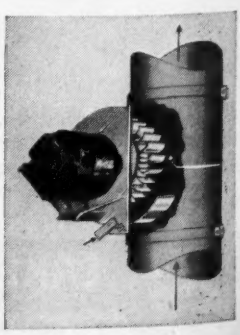
AVAILABLE—1½, 3, & 25 LB. SIZES

DEALERS—JOBBERS INQUIRE

AMBER-ROSE INDUSTRIES
3118 NO. MILWAUKEE AVE.
CHICAGO 18, ILLINOIS

CURE DRAFT TROUBLES

TJERNLUND
"Auto Draft" Inducer



No smokepipe obstruction, just cut a rectangular slot in smokepipe and band on.
Can be mounted horizontally or vertically.

Save Fuel, Service Calls, Customer Goodwill

TJERNLUND MFG. CO.
2140 Kasota, St. Paul 14, Minn.

PAYLOADS UP with WHITE 3000

. . . SAVE ON DELIVERY TIME AND COSTS

In the delivery of petroleum products, the trend is to BIG PAYLOADS!

And the trend is to the White 3000—functionally designed for maximum payload—in straight trucks or with semi-trailer tankers.

There are other "3000" exclusive advantages, too—the outstanding maneuverability that helps save time in crowded streets and alleys . . . the economical maintenance . . . the savings in operating costs.

They all add up to more work . . . in less time . . . at lower cost. Find out how the White 3000 can cut *your* delivery costs . . . speed *your* deliveries.

THE WHITE MOTOR COMPANY
Cleveland 1, Ohio

For more than 55 years the greatest name in trucks

Speed fuel oil deliveries

"MAXIMUM Payloads are important to us—but that isn't the only reason we like Whites in our business," Christ Lund, vice-president, LUNOIL Div., H. N. Lund Coal Co., Chicago, says. "The White 3000 is outstanding in all size fuel oil deliveries—straight truck with 2000 gallon tanker, six-wheeler with 3000 gallon tanker, and tractor for 5000 gallon semi-trailer tanker—all three are doing a great job for us."

FIRST—IN THE FIELD

White 3000

PROVED IN BILLIONS OF LOW-COST MILES

Mr. MANUFACTURER:

If YOU Want Good Sales Production *in the* SIX NEW ENGLAND STATES *for Heating Accessories* send *for:*

The BILL DEBLERS!

Can furnish names of nearly 400 jobbers who like us—and can prove to you the six manufacturers we represent are MIGHTY PLEASED.

WILLIAM J. DEBLER
SENIOR & JUNIOR
31 Gordon Road, Needham, Mass.

OIL BURNER IGNITION ASSEMBLIES *for* **industrial and residential use**

CROWN offers a complete line of standard oil burner electrode assemblies, cable assemblies, hardware, terminals and UL approved cable. Quality is the finest available. Ceramic insulators are UL approved. Prompt, efficient, reliable service on all orders—large or small.

Complete Service

CROWN engineering service is complete. Call or write today for complete information on standard or custom-built assemblies. Literature on request.

Crown Engineering CORPORATION
KEYPORT • NEW JERSEY

Calendar of coming Events

FEBRUARY

2—American Petroleum Institute (Executive committee of Board of Directors), Ambassador Hotel, New York.

2 - 3—Sheet Metal & Warm Air Heating Contractors' Assn. of Indiana (Convention), Hotel Severin, Indianapolis, Ind.

18–19—California Petroleum Marketers Assn., Hacienda Hotel, Fresno, Calif.

22–23—Iowa Independent Oil Jobbers Assn., Inc., (Convention), Fort Des Moines Hotel, Des Moines.

27–29—Missouri Petroleum Assn. (annual meeting), Chase Hotel, St. Louis, Mo.

28—Sixth annual get-together, Gulfstream Chapter of the Oil Heat Industry at Coral Ridge Yacht Club, Ft. Lauderdale, Fla.

MARCH

7- 8—Wisconsin Petroleum Assn. (annual meeting), Hotel Schroeder, Milwaukee.

13—Oil Trades Assn. of New York, Inc., Waldorf-Astoria, New York City.

13–14—Illinois Petroleum Marketers Assn. (annual meeting), Hotel Sherman, Chicago.

15–17—Texas Oil Jobbers Assn. (annual meeting), Statler-Hilton Hotel, Dallas.

19–21—Canadian National Heating & Air Conditioning Show, Automotive Bldg., Exhibition Park, Toronto, Canada.

20–21—Nat'l Heating & Airconditioning Show, Automotive Bldg., Exposition Park, Toronto, Canada.

20–22—Ohio Petroleum Marketing Assn., Inc. (spring convention and exposition), Deshler-Hilton Hotel, Columbus.

30—Florida Petroleum Marketers Assn., Inc. (annual meeting), George Washington Hotel, Jacksonville.

APRIL

12—New England Oil-Heat Institute (annual meeting), Somerset Hotel, Boston.

18–20—National Petroleum Association (semi-annual meeting), Cleveland Hotel, Cleveland, O.

19–20—Science Section of the Environmental Equipment Institute (annual meeting), Sheraton Hotel, Chicago.

26–27—Fuel Oil Distributors Association of New Jersey (annual convention), Berkeley Carteret Hotel, Asbury Park, N. J.

22–29—World-Oil Exposition, Houston, Texas.

26—Virginia Petroleum Jobbers Association (annual meeting), John Marshall Hotel, Richmond, Va.

29–May 1—Independent Petroleum Association of America (semi-annual meeting), Statler Hotel, Los Angeles, Calif.

30–May 4—American Petroleum Institute (safety and fire protection mid-year meeting), Warwick Hotel, Philadelphia.

MAY

13–15—Empire State Petroleum Assn. (annual meeting), Statler Hotel, Buffalo, N. Y.

13–15—Pennsylvania Petroleum Assn., Bedford Springs Hotel. Bedford, Pa.

15–16—Louisiana Oil Marketers Assn. (annual meeting), Roosevelt Hotel, New Orleans.

21–23—American Petroleum Institute, Division of Marketing (midyear meeting), Atlanta Biltmore Hotel, Atlanta, Ga.

20–22—Tennessee Oil Men's Assn. (spring meeting), Hotel Lookout Mountain, Chattanooga, Tenn.

26–June 2—North Carolina Oil Jobbers Assn. (annual meeting), aboard the "Queen of Bermuda."

"Good morning sir!! Uh—did you call for a serviceman?!"

Big burner Shipments total 3,731 during November, '55

NOVEMBER SHIPMENTS of commercial-industrial oilburners totaled 3,731. According to the research department, Oil-Heat Institute of America, this was substantially the same as October.

The research department feels that the reason the figures are not reflecting monthly increases is because of the increasing volume of packaged units. Packaged units do not appear in the report and a revision of the reporting technique is contemplated.

A breakdown as to type of burner shipped is as follows:

	Oil-burners	*Oil-Gas Burners*
HORIZONTAL ROTARIES		
2½ and under	92	73
Over 2½ to 8	33	21
Over 8 to 30	532	40
Over 30 to 100	484	27
Over 100	32	5
Total Shipments	1,173	166
GUN BURNERS		
Over 5 to 30	2,077	168
Over 30	38	15
Total Shipments	2,115	183
MECHANICAL ATOMIZING		
30 and over	84	10
TOTAL, ALL TYPES	3,372	359

Sales Appointments

Paul R. O'Kane and *Thornie House* are new sales representatives for Wm. Steinen Mfg. Co., Newark, N. J. O'Kane will represent the manufacturer of oilheating accessories in Indiana and Kentucky. House's territory is Western Pennsylvania and Ohio.

Jerry Fields will represent the Dunkirk Blue Circle heating line in Connecticut for Dunkirk Radiator Corp., Dunkirk, N. Y.

Neviaser & Hoddinot, Washington, D. C., will represent Kritzer Radiant Coils, Chicago, in the Washington area.

Adams, Inc., Fargo, N. D., appointed wholesaler for The Heil Co., Milwaukee, Wisc., to distribute furnaces, boiler-burner units, conversion burners and summer airconditioners in North Dakota and parts of South Dakota and Minnesota.

Baker Specialty and Supply Co., Inc., Logansport, Ind., and the *Vermont Hardware Co., Inc.,* Burlington and White River Junction, Vt., are new stocking distributors of Asco Solenoid valves for the Automatic Switch Co., Orange, N. J.

Warren H. DeLancey and *Ray Harnetiaux,* Detroit, Mich., are now sales representatives for Metalmaster Corp., Newark, N. J.

Chester Arthur Brunner appointed district sales representative, Buffalo, N. Y., area for the American-Standard Air Conditioning Division, New York.

Washburn-Garfield Co., Worcester, Mass., are now stocking distributors for Automatic Switch Co., Orange, N. J.

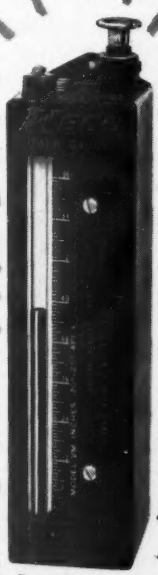
Speakman Co., Wilmington, Del., named wholesaler for furnaces, boiler-burner units, conversion burners and summer airconditioners made by The Heil Co., Milwaukee, Wisc.

new!

KECO

Remote-reading TANK GAUGE

For Oil and Gasoline



➡ Versatile!

➡ Attractively Priced!

➡ Economical to Handle!

➡ Minimum Dealer Inventory!

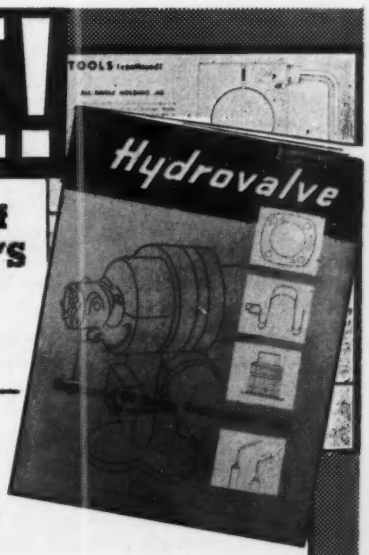
FREE BULLETIN shows why the Keco gauge is a natural for users, distributors and dealers alike. Write Today!

KING ENGINEERING CORP.

Box 410 • Ann Arbor, Mich.

MANUFACTURERS OF GAUGING EQUIPMENT FOR OVER 30 YEARS

FREE!



Your copy of HYDROVALVE'S NEW CATALOG

This valuable catalog of Engineered Oil Burner Replacement Parts is a "must" for every man in the Oil Burner Servicing Field.

It is completely illustrated and shows you everything from gaskets and electrodes to dependable, long-lasting replacement parts for rebuilding fuel units and controls. It also features a complete line of specially designed money saving servicing tools.

Buy from your jobber . . . He serves you well!

Write for your FREE catalog to-day! You'll be glad you did—

Name _____

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HYDROVALVE CO.

1319 Utica Ave., Brooklyn 3, N. Y.

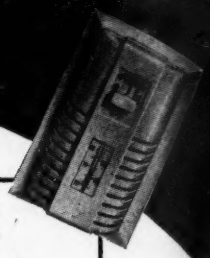
BUckminster 4-1330

McCORKLE CONTROLS

for Vaporizing Oil Burners

Satisfy dealers . . . Satisfy customers

McCorkle Controls are backed by a record of 18 years of dependable service. Dealers endorse them, because their rugged simple construction reduces service calls to a minimum. Customers appreciate them for their dependable, accurate operation.



Write today for literature and specifications to cover your particular requirements.

D. H. McCORKLE CO.

Box E, Station A • Berkeley, California

Degree Days don't always Behave

(*Begins on page 53*)

tion of kerosene to make the kind of an adjustment which we did for distillate fueloil so we have to be content with a somewhat lesser analysis.

Several years back we did get a breakdown of the consumption of kerosene into its various usages and we estimated from studies at that time that about 57% of the total consumption of kerosene might be affected by changes in weather. As long as the total barrelages that work out as weather adjustments are relatively small, we have not seen fit to delve into this any more extensively, although we do not doubt that improvements could be made if one wanted to study this in greater detail.

In the case of residual fueloils, we have assumed that for railroads, gas utilities and heating oils the same proportions of the consumption of these products are affected by the weather as we used in our distillate study. The other classifications of use which we were able to analyze for distillates, that is oil company use, and fuel used in smelters, mines and manufacturing, we have not been able to analyze for residual fueloils. We did not find that there was the considerable seasonal variation in deliveries of these products to manufacturing as was evident for distillate fueloil, which appeared to be the extra quantity used in the winter by those industries for space heating.

We have been making such weather calculations over the last several years and the results in net barrelages per day which were over- or under-consumed because of the weather variations from normal are shown in TABLE IV. For District #1 we find that in every year of the last six the consumption was under normal because the weather was warmer than normal. That means that we have added to the actual consumption figures the barrelage per day we show in this table for these fuel products to bring them up to our calculated normal consumption.

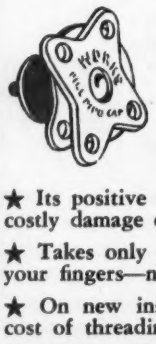
On the other hand, in Districts #2 and #4 you will find that in two of the six years shown the weather was colder than normal and you should deduct the consumption shown from the actual figures in order to reduce them to normal. In District #5, you will note that the differences caused by weather are relatively insignificant.

To complete the record, we have shown on TABLE V the estimated total barrelage affected by variations in weather. These have been built up, as we have explained in the individual cases, by taking pieces of the reported sales on an annual basis and adjusting for deliveries not actually consumed.

These consumptions are then divided by the actual degree days and we show on TABLE VI the consumption per degree day on an annual basis. This table is valuable because from it you can get some estimates of the future by extending the very clearly indicated trends. An upward trend is a reflection of the growing numbers of oil-consuming devices which would be affected by weather. Some of these trend increases are fairly sharp and others, of course, are growing rather modestly as in the case of kerosene. From this table we would assume that for every variation of one degree day in the United States on an annual basis, there would be added or deducted from the normal consumption 93,000 barrels of products in 1954. Looking at 1955, you would probably assume that this figure would approach 98,000 barrels.

We believe our adjustments to consumption data to take into account variations in weather are fairly accurate. We do not know of any way to predict the next year's weather, so the best we can do is to assume the weather will be normal.

NEW REVOLUTIONARY



POSITIVE

FILL PIPE SEAL

AN ANSWER

TO YOUR PROBLEMS

★ **Its positive seal is insurance against costly damage due to water.**

★ **Takes only seconds to remove with your fingers—no wrenches needed.**

★ **On new installations you save the cost of threading fill pipe.**

★ **Old installations can be protected against water without renewing worn and rusty fill pipe threads.**

★ **No threads needed—just push in and twist and your tank is doubly sealed.**

★ **Can be locked against theft or tampering by children.**

★ **Fits to lawn level which permits mowing grass over pipe.**

★ **Eliminates costly lawn repair when replacing worn out fill pipe threads.**

★ **Your name and phone number embossed on face of seal FREE in gross lots.**

WRITE FOR COMPLETE INFORMATION

Work's Manufacturing Co.

Manufacturers of a lawn level fill pipe seal—also a self venting tank and barrel seal.

P. O. Box 791, Vancouver, Washington

NEW YORK TECH

America's Foremost School . . . Famous for teaching

OIL BURNER

INSTALLATION AND SERVICING

Also Courses in: **REFRIGERATION & AIR CONDITIONING**

Remember **NEW YORK TECH** *whether you have*

MEN TO TRAIN, or

NEED TRAINED SERVICEMEN

Call or Write **NEW YORK TECHNICAL INSTITUTE** *Est. 1910*

A Division of N.Y. Institute of Technology
A non-profit educational institution

500 Pacific St., Brooklyn, N. Y. • MA 5-6220

Spending enough to Win

(*Begins on page* 49)

gallon the stove oil business represents nearly half of the total distillate dollar volume. The oil men recognize that this space heater business will be the biggest problem in the face of gas (and electric) competition. A lot of work is being done to convert these to central heating or to replace them with the most modern circulating heaters.

The preponderance of furnaces are in the large cities. In Oregon, for example, only Multnomah County (Portland) has more furnaces using oil than space heaters. Here the ratio, as of 1953, was—furnaces 64,890, space heaters 23,240. In the other 31 counties we find 38,970 furnaces to 111,775 space heaters.

Dale Josephson, who runs the Oregon OHI office, has been spending most of his recent days in holding meetings about the state to encourage more local groups to come into the campaign. Thus far he has 14 schedules running in addition to Portland. The local communities get the benefit of the agency's development expense and for this they pay into the central campaign office 10% of their fund. On mailing pieces they pay their ratable share of what they use. The balance of what they raise locally is spent locally.

Benefit from Radio

Naturally these small places get considerable benefit from the radio and television programs broadcast from the large cities but that doesn't cost them anything. One significant point in getting the smaller markets started is that OHI won't work with them until they bring in at least 75% of the gallonage of the county for financial support.

At a meeting held in Carmel, Calif., on November 10 the Regional Advisory Council studied and adopted the art work, copy and general nature of the 1956 showings presented by the Pacific National agency. We are not illustrating the new campaign, first because some of it is still in the sketch stage, but also because we would prefer to wait until the newspaper ads, billboards and such have been run. Basically, however, the new scheme is built around the buying-now emphasis. Considerable attention is given to replacement sales . . . again with nearly everything tied to the "modern" phase of oilheating.

We do illustrate on accompanying pages some good examples of the 1955 showings.

One interesting phase of the program for 1956 is a 50 second radio jingle, musical and clever. When this is used on television it runs with a cartoon film, Disney type, made with 1,200 individual sketches.

Because the campaign is well financed, the agency has been able to afford almost any type of presentation that seemed called for. There's a strong billboard showing in all supporting cities, radio and TV spots wherever available, newspaper space, truck signs.

Then there's a monthly bulletin, "The Oil Heat Investor" in three-

PETROMETER

Remote Reading

LIQUID DEPTH GAUGES

- Accurate, dependable readings — operates on principle of hydrostatic pressure.
- Easy to install—on tanks above or below the ground and up to ¼ of a mile away.
- For tanks 20" to 50 ft. deep.

SEND TODAY FOR BULLETIN PF.

LIQUIDEPTH INDICATORS, INC.

43-22 Tenth St. **Long Island City 1, N. Y.**

KEEP YOUR PROFITS UP!

With Low Cost

FUELGUARD

The only remote reading tank gauge which needs no direct connection to the tank.

Find out how the simple FUELGUARD principle keeps costs **down**—your profits **up**! Send for catalog today.

THE R. S. TEESDALE CO.

2830 Woodcliff St., S. E. **Grand Rapids 6, Mich.**

color printing that goes to all supporters and potential supporters of the fund. Another bulletin, "Heating Facts," goes periodically to architects, engineers, builders and realtors.

There's a lot of tie-in advertising with builders. The OHI program will run a half page in a Sunday home section and show a group of houses in a development, picture of the builder and a statement from him on why he prefers oil heat.

With the coming of oil products pipelines from Montana and Utah to the eastern portions of the four-state area, there are now 14 supplying companies. These are Standard, Shell, Richfield, Tidewater, General, Signal, Time Oil, Husky Refining, Phillips, Continental, Carter, Midwest, Texas and Union Oil. Of the 14 companies 12 are supporting the campaign thus far and there is optimism over the other two coming in soon.

After spending a few days in the midst of this campaign you can't escape the feeling that you wouldn't want any stock in the Pacific Northwest gas pipeline.

Simplified Duct Installation

(*Begins on page 64*)

me summarize the outstanding points to be observed when running ductwork for a warm air installation. The trunks and stacks will change with every building depending on the room location and the position of the furnace, but keep the following points in mind:

1. The duct system should be hung as close to the ceiling as possible so as to provide maximum headroom.

2. Run branch ducts between joist spaces wherever possible.

3. Discharge from warm air supply registers should be so directed as to avoid direct contact with people sitting nearby.

4. Ducts should be hung with metal hangers—sheet metal screwed to the side of the duct and then nailed to the floor joist.

These are but a few good, general practices which will contribute much to the satisfaction and comfort of the homeowner.

The concluding article in this series will discuss briefly the importance of air circulation and its effect upon warm air heating, along with an accurate method of setting blower controls.

❖

Mortemp Division of Mechanical Products Mfg. Co., Seattle, Wash., has been appointed heating and air-conditioning equipment distributor for the Rheem Mfg. Co. in the state of Washington.

Frank P. Gibbons has been named sales representative with headquarters in Cleveland, Ohio, for the Skuttle Mfg. Co.'s line of humidifiers in the territory of Ohio.

Joseph Wait has been appointed to the Washington, D. C., sales office of the Trane Co., La Crosse, Wisc., as a sales engineer.

Conrad R. Bangh, Omaha, Nebr., now representative for Asco solenoid valves and electromagnetic controls in Nebraska and sections of Iowa for Automatic Switch Co., Orange, N. J.

"ECHO"
(whistling)
VENT SIGNAL
Pat. in Canada—U.S. Pat. Pend.

- . . . Costs Less
- Installs Easier
- 50% Less Stock
- Increases Profits
- Dual Purpose
- Two Models
- Approved . . .

ORDER
FROM LOCAL WHOLESALER
OR WRITE US DIRECT.

A. B. CARLSON & Co., Inc,
349 Woodlawn Avenue AURORA, ILLINOIS

New! RADIANT
DIRECT OIL FIRED
WATER HEATER

- For Homes, Apartments, Industries
- ASME Constructed
- Furnished with Combustion Chamber & Relief Valve
- Fuel Supply from Heating Unit Tank
- Radiant Burner, Automatic Safety & Water Temp. Controls
- Heater Guaranteed 5 Years

High and Low Pressure Oil Burners • Shell Head Burner • Winter Air Conditioner • Submersible Sump Pump • Utility Pump • Sump Pump

Write for complete literature on all Radiant products.

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